OCTOBER, 1960

Industrial FINISHING

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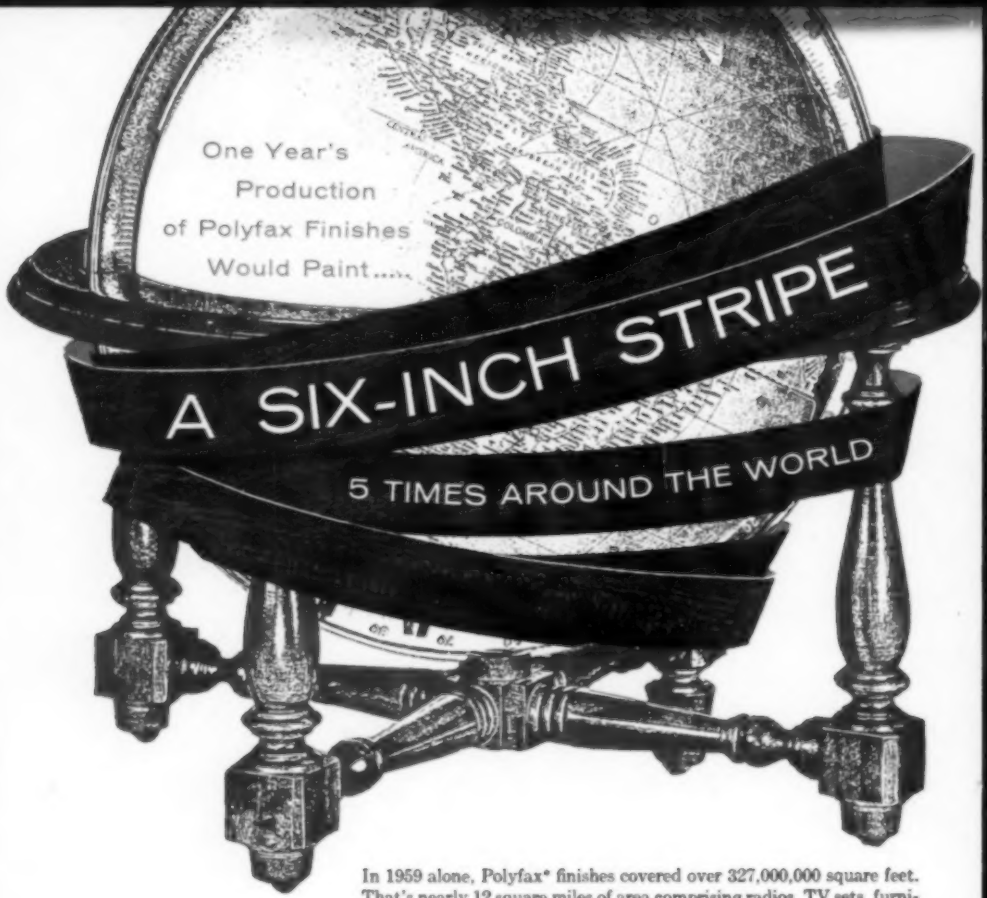
For 36 Years The Leading Publication Serving The Finishing Industry



In 1959 alone, Polyfax* finishes covered over 327,000,000 square feet. That's nearly 12 square miles of area comprising radios, TV sets, furniture, and wall paneling. In fact, 1959 saw records set for sales and acceptance by manufacturers and consumers alike.

In the Polyfax process you find an almost incredible realism in the reproduction of the most delicate wood grains, leather or fabric textures, and even patterns or designs of your own creation. These can be reproduced faithfully by Polyfax, on such diverse substrates as wood, plastic, steel, and composition board.

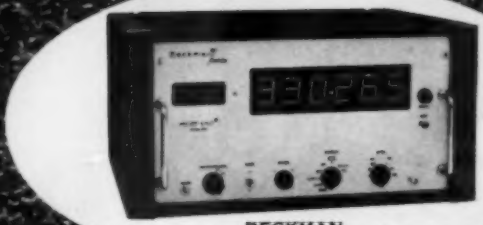
Here is a finishing process designed specifically for application to your production problems and techniques. A system of interrelated components; precision engravings, ground coats, inks and clears "job selected" to turn out miles of high fidelity reproductions day after day, month after month with a minimum of rejects.

Can your product use a new look? Write today for your copy of the booklet, "The Key to Distinctive Styling." Learn how the IC* Polyfax system turns a reproduction into . . . a photo finish of the real thing!

Interchemical
CORPORATION
Finishes Division

Headquarters Office: 224 McWhorter Street, Newark 5, N. J. Factories: Chicago, Ill. • Cincinnati, Ohio • Elizabeth, N. J. • Los Angeles, Cal. • Newark, N. J. • Mexico City, Mex. In Canada, this product is made by Aulcraft Paints Limited, Toronto, Ontario and sold under its trademark. *IC and Polyfax are trademarks of Interchemical Corporation.

ARMORETTE COATING USED BY BECKMAN INSTRUMENTS ON COMPUTERS, TEST EQUIPMENT



BECKMAN
ELECTRONIC COUNTER

A textured vinyl finish applied at low baking temperatures, ARMORETTE is used on a number of Beckman's computers and electronic test instruments. Another leading ARMORETTE application: garnish moldings of the Chrysler Imperial

ARMORETTE offers you these important advantages:

- A wide range of textured vinyl finishes ranging from those resembling alligator to finishes similar to laminated vinyl.
- Low baking temperature. ARMORETTE can be baked at temperatures as low as 160°F and has been applied successfully to such non-heat-resistant materials as polyester, wood and chipboard.
- Three times more abrasion resistant than gloss or semi-gloss enamels and of comparable cost.
- Can be used on a broad range of dissimilar materials including steel, aluminum, wood, reinforced polyester and pressed wood.
- Remarkable ability to cover surface imperfections.
- A wide selection of gloss and colors, including both metallic and non-metallic.
- Excellent salt spray, humidity, chemical and scuff resistance.

Send for Bulletin and Sample Panel

ARMORETTE

John L. Armitage + Co.

SYNTHETIC ENAMELS • VINYLS • VARNISHES • LACQUERS
245 Thomas Street • Newark, New Jersey

For more data, circle 151 on colored card.

a valued customer: HY-LAN Furniture Company, Inc.

HICKORY, NORTH CAROLINA

"....and the antique finish seems so right for HY-LAN's 19th century design."*

Like all true art, finish styling is one that requires sensitivity and skill in the creation, but is easily recognized and appreciated by the public. Thus furniture shoppers sense instinctively that Hy-Lan's Antique Patina Finish is "right" for the 19th Century contemporary design. They are aware that the finish seems distinctive and different in a pleasing way that implies quality and enhances their evaluation of the furniture.

These are reasons why Guardsman® finish styling is proving to be such an important part of saleability for more and more manufacturers.

This display card is an important reminder to customers of the extra value to be found in Guardsman® Finishes. Available from the above manufacturer.

GRAND RAPIDS VARNISH CORPORATION

Grand Rapids, Michigan High Point, North Carolina

Creators and manufacturers of Guardsman® finishes for fine furniture
Makers of the famous Guardsman® Cleaning Polish

Studios in Grand Rapids,
High Point, Hickory and Morganton

**the better the finish the better the buy*

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Published
the 18th of each month by
PRACTICAL PUBLICATIONS
Incorporated
1142 N. Meridian St.
Indianapolis 4, Ind.
Telephone MElrose 5-6771

Industrial FINISHING

W. H. ROHR, *Editor* P. C. BARDIN, *Associate Editor*

October, 1960
Vol. XXXVI, No. 12

BPA

A monthly magazine for company executives, production superintendents, process engineers, chemists, purchasing agents, paint shop and finishing department foremen of industrial plants where product surface cleaning and painting are major operations in the manufacture of parts and products of all kinds.

★

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★

West Coast Editor
CHAS. R. BROWN

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Accepted as Controlled Circulation Publication at Indianapolis, Indiana

36 **THIRTY-SIXTH YEAR OF PUBLICATION**

Random Comment

"House of Tomorrow"—Steel. Successful prefabricated housing — elusive goal of industrialists in residential construction for many years—may become a reality through steel. In fact, mass production of all-steel homes is now economically feasible.

Steelways declares that the problem in the erection of prefabricated housing is that the homes are made up of too many pieces—thousands of them. Bigger pieces, put together more efficiently and therefore less expensive, have long seemed to be the answer to this problem. Such pieces, stamped out of steel, are now possible and may one day be common.

* * *

Color in Buildings. America's trend to color in buildings received an added incentive with the introduction of a new finish for aluminum.

Developed by Aluminum Co. of America, the new hue is a pale gold, bringing to 12 the number of color-anodized coatings now available from Alcoa for exterior use on architectural projects. Other shades include a companion dark gold, two hues of blue, four of gray, two browns, and two greens.

* * *

More Fold-Up Metal Tubes. Sales of collapsible metal tubes increased in the first half of 1960 despite a levelling-off trend in the economy in general.

Shipments of one of America's oldest manufactured containers totalled 594,361,728 units in the first six months of this year. This was an increase of more than 8-million over the corresponding period of 1959, a record-breaking year in which more than one billion metal tubes were extruded.

* * *

This wrapping identifies the firms product.

Identification and Protection. Chase Brass & Copper Co. has a new packaging program for its flat rolled products in coils (brass and copper). The new paper, "modeled" here by Chase employee, Carol Shea, is designed to keep products shipped to warehouses and customers spotlessly clean. The tan paper has printed on

From the start – Consider the FINISH!

DOLAN'S

"Unquestionable Quality"

INDUSTRIAL FINISHES

Will *supply the answer* to your search for the highest quality protective and decorative coatings available.

Our laboratory and technical engineers will be happy to cooperate in working with you in developing an economical system that will solve any particular problem. Complete systems for wood, metal, etc.

Write TODAY for detailed information!

V. J. DOLAN & COMPANY, INC.

manufacturers of

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INDUSTRIAL FINISHES

1830 N. Laramie Ave., Chicago 39, Illinois BErkshire 7-0100

For more data, circle 153 on colored card.

it the Chase name in yellow, and the Chase trademark (a centaur) in red. The paper consists of 100% unbleached Swedish Sulphate with a chemical treatment of resin, rosin and wax which produces a duck-back effect as well as an internal water resistance. Printing is done on Gravure presses to assure sharpness of detail.

* * *

55-Gallon Steel Drums. More than 750,000 new and reconditioned 55-gallon steel drums were used by Gulf Oil Corporation last year to package and ship in the United States and abroad some 250 different, specially-compounded petroleum products. If laid end to end these drums would stretch from Pittsburgh to Chicago.

Gulf officials estimate that used drums can be reconditioned four to eight times depending on how hard they are used. In gentle service, the brightly painted Gulf ambassadors might successfully make the rounds 25 or more times.

* * *

Prevents Explosions. To the naked eye, an explosion appears to be instantaneous, yet there is a finite time lapse, measured in thousandths of a second between ignition and build-up of destructive forces. The Fenwald explosion protection system operates during this brief period. In a few milliseconds it detects the inception of the blast and automatically snuffs it out. It was developed in England. Fenwald, Inc., is the distributor.

* * *

A Power Cleaning Gun known as Trig-Away will be useful in your maintenance cleaning of engines, motors, machinery, lube equipment—even walls and floors. It operates from a compressed air line. An air jet in the nozzle picks up the cleaning solvent which is aerated with compressed air for cleaning oil and grease by spraying. This is followed by a blast of warm or cold water spray to clean the surfaces. Bonus Products Mfg., 3001 S. Kedzie Ave., Chicago 23, Illinois.

* * *

Water White Lacquer. Yes, a clear, heavy-bodied top-coat lacquer that will not yellow, can be sprayed hot or cold, is mar-resistant and cold-check resistant—that's what manufacturers of furniture and other fine hardwood products have been seeking for a long time. Two or three concerns have offered it in recent advertising.

The advertisements in every issue of *Industrial Finishing* contain timely information not only about coatings but about everything used in making surfaces ready for painting; and about preparing, delivering and applying the paint; and drying paint coatings. There is a wide choice of materials and equipment for every method of paint application and paint drying.

* * *

Transparent Card Holders. Because of the increasing need for and use of clean, legible, unsmudged job tickets, blueprints, price lists, etc., a new type of plastic card holder has been developed by Cooks' Inc., Blackwood, N. J. Known as the Ful-Vu Vinafilm Card Holder, the material is soft and flexible. Completely transparent, the Ful-Vu vinafilm card holder is clear.

Any material inserted in the vinafilm card holder is easily readable. It stays clean and unsoiled for years, completely protected from smudging. The vinafilm will not crack nor discolor with age. In addition, it resists abrasion, oil and chemicals, thus protecting its contents from damage.

What Would
75% PAINT SAVINGS
Mean in YOUR Finishing Department?

Designed for the New Decade—Beautifully styled BAL HARBOUR line of aluminum furniture by AFCO was winner of the 1960 Apollo Award for pre-eminence in design. The uniform, high quality finish is applied electrostatically with the Ransburg No. 2 Process Hand Gun.

Faster . . . Cleaner . . . Cheaper—The "wrap-around" feature of the No. 2 Process Electrostatic Hand Gun paints all areas of this type of work from one side only, providing a 75% paint savings and a 700% increase in production volume over former air hand spray.

RANSBURG Ransburg No. 2 Process Electrostatic Hand Guns are providing a 75% painting savings in the painting of beautiful AFCO aluminum furniture.

AFCO Aluminum Furniture Co., Inc., Miami, Fla., replaced hand spray with two Ransburg Electrostatic Hand Guns. Along with paint and labor savings, quality of the work was improved with greater uniformity. And, production volume was increased a healthy 700%! Formerly, they were painting approximately 100 items a day. NOW, with the faster, cleaner Electrostatic Hand Guns, they paint from 700 to 800 pieces per day. Electrostatic is faster because the "wrap-around" characteristic of Electro-Spray paints all areas of this type of work with a pass from one side only.

NO REASON WHY YOU CAN'T DO IT TOO

Write for information and literature about this revolutionary, new painting tool. See how the Ransburg Electrostatic Hand Gun can save time . . . paint . . . and cut costs in YOUR finishing department. If your production justifies, it'll pay you to investigate Ransburg's *automatic* electrostatic spray painting equipment. Write for our No. 2 Process brochures which show numerous examples of modern production painting in both large and small plants.

RANSBURG Electro-Coating Corp.

Box 23122, Indianapolis 23, Indiana

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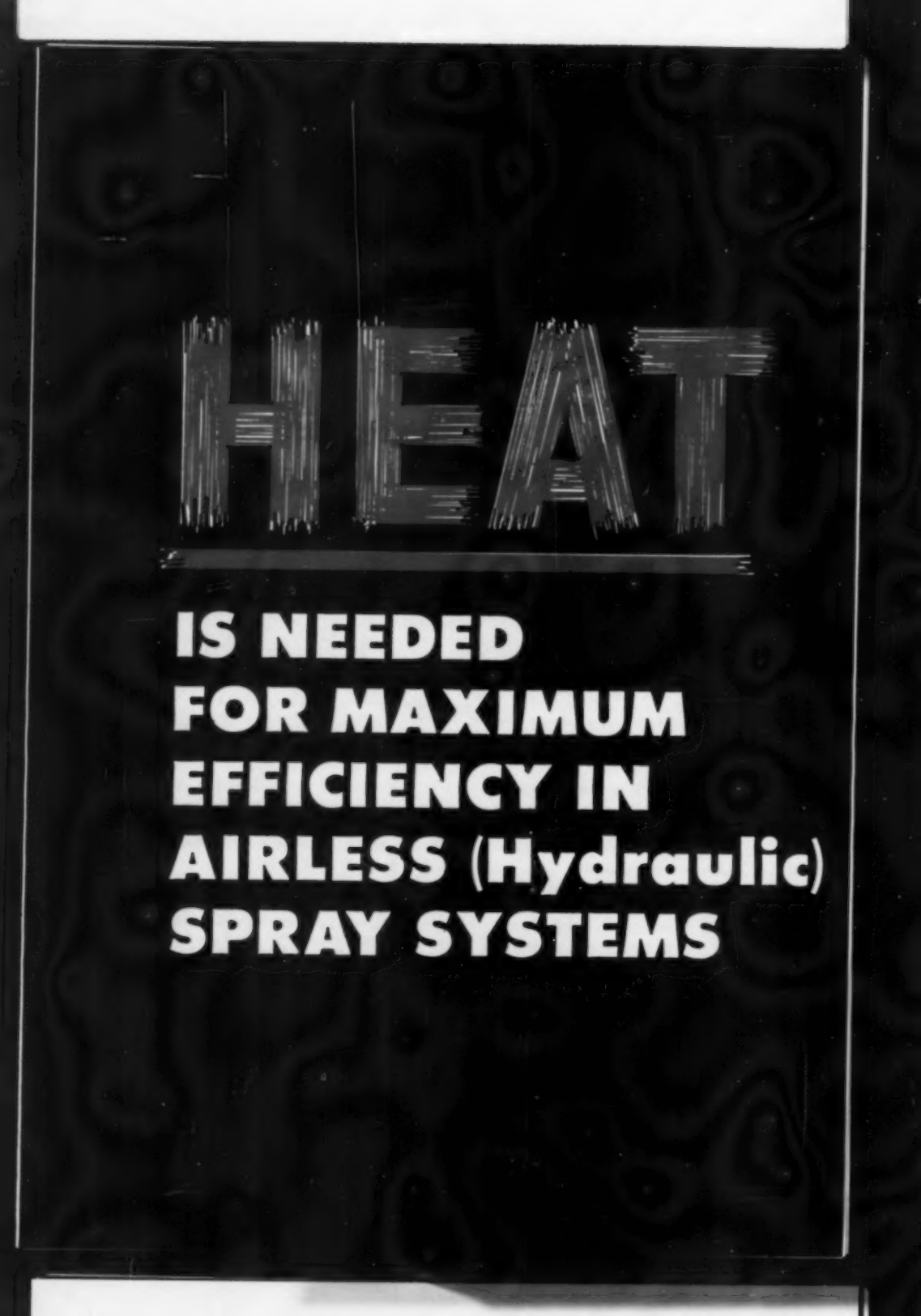

HEAT
IS NEEDED
FOR MAXIMUM
EFFICIENCY IN
AIRLESS (Hydraulic)
SPRAY SYSTEMS

HEAT

lowers and controls viscosity with less use of solvents. Lower working pressures can be used, that means less over spray, less waste of coating materials.

HEAT

...controlled heat eliminates variances due to climatic changes.

Find out how Hot Airless can help you save money and do a better coating job, too! Write

NORDSON CORPORATION
55 Jackson St., Amherst, Ohio

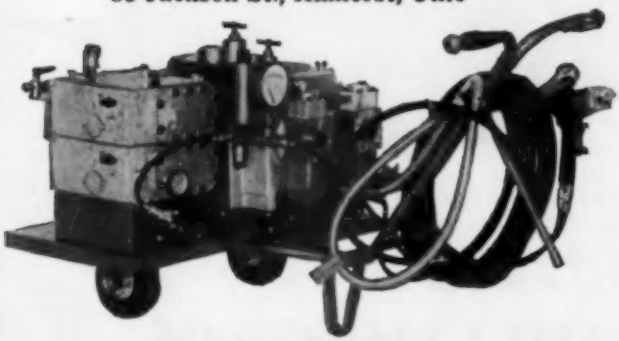
HEAT

makes it possible (because less solvents are needed) to apply coating materials with high solids content – heavier films when desired.

Improved flow-out, eliminates orange peel and blushing.

HEAT

provides greater flexibility, greater control of film thickness and finish. Quality is controlled, rejects cut.



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The Only System With all the Advantages of Airless Plus HEAT

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Product: 99.75+% Pure
Service: 100% Sure

Every batch checked. Every can filled with a full weight of extra high quality 99.75+% Chromic Acid. Prompt delivery from ample factory and nearby distributor stocks. Why not order BFC Chromic Acid next time?

BETTER FINISHES & COATINGS, INC.

268 Doremus Ave., Newark 5, N. J. • 2014 E. 15th St., Los Angeles 21, Calif.

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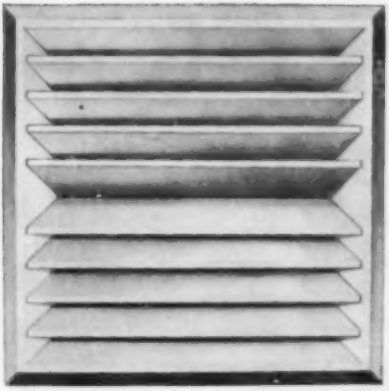

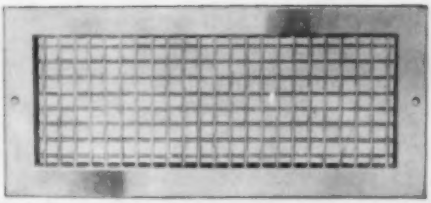

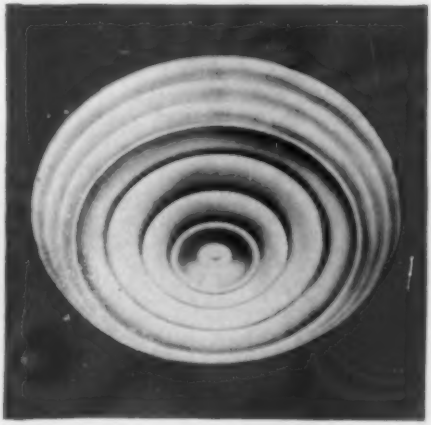

ROCKFORD ALUMINUM ENAMEL ADDS LIFETIME FINISH TO CARNES AIR OUTLETS

Our friends at Carnes Corporation call it their F-4 finish—a baked aluminum enamel developed for Carnes air outlets by Rockford Varnish Co., Rockford, Ill.

Made with ALCOA® Pigments and applied with a special Carnes process, Rockford aluminum enamel finish is remarkably corrosion- and scratch-resistant. In fact, Carnes registers, grilles and diffusers are specified for humid climates because the accessories—as well as the handsome supply and return faces—have the F-4 protection.

Carnes air outlets are installed to last the lifetime of a building. That's why lifetime appearance is important. Carnes reports its F-4 aluminum finish is easy to clean (just soap and water), looks like new indefinitely.

ALCOA does not make paint, but paint manufacturers, working with ALCOA Pigments, have developed a wide range of aluminum and metallic finishes that give extra protection, build big sales for a variety of products. Get all the facts from your paint manufacturer, or write to ALUMINUM COMPANY OF AMERICA, 1746-K Alcoa Building, Pittsburgh 19, Pa.

ALCOA ALUMINUM

PIGMENTS, PASTES AND POWDERS

For exciting drama watch "Alcoa Presents" every Tuesday evening—ABC-TV

For more data, circle 157 on colored card.

...and O'Brien Industrial Finishes are all-important to leading manufacturers

The Valley Metal Products Company of Plainwell, Michigan, a subsidiary of Mueller Brass Co., depends on O'Brien Finishes to beautify and protect its products. For example: O'Brien's methacrylate clear lacquer eliminates corrosion when aluminum windows, doors and curtainwalls are set into concrete and mortar. Retards oxidation and pitting, too.

What's *your* product? What's *your* finishing need? The beauty, toughness and long life of O'Brien Finishes are famous for increasing manufacturers' sales, customer-loyalty and profits. The list of products is almost limitless. "It's the finish that counts." And we invite *you* to count on O'Brien.

WRITE FOR FURTHER DETAILS

O'BRIEN

INDUSTRIAL FINISHES

THE O'BRIEN CORPORATION, South Bend 21, Indiana · Baltimore · San Francisco · Oklahoma City · Los Angeles

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Because...	**SYNFLEX** is lighter	**SYNFLEX** is economical
SYNFLEX is flexible	**SYNFLEX** gives smooth flow	**SYNFLEX** has closer tolerances
SYNFLEX avoids operator error	**SYNFLEX** is translucent	**SYNFLEX** is impervious to solvents
SYNFLEX for hot or cold spraying	**SYNFLEX** simplifies cleanup	**SYNFLEX** has high strength
SYNFLEX resists abrasion	**SYNFLEX** comes in 500′ reels	**SYNFLEX** handles all finishes

SYNFLEX UNIVERSAL PAINT SPRAY HOSE

is distributed through

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A-2390A

Call your local Graco representative for all your paint spray hose needs.

SYNFLEX®
Products Div.
Samuel Moore & Co.
Mantua, Ohio

For more data, circle 159 on colored card.

This advertisement is appearing in Furniture World and Furniture South

He clinched the sale when he said the enduring quality of the finish
Your best promotion for light-colored furniture is
NON-YELLOWING, STAIN RESISTANT
BUTYRATE
TOP-COAT LACQUER

Now...white finishes that stay white

Non-yellowing, stain resistant Butyrate lacquers are solving one of the furniture industry's most difficult problems...age-discoloration and staining of white and light-colored finishes.

These new, water-white topcoat lacquers are based on tough, durable Half-Second Butyrate, an Eastman film-former.

First used successfully as a coating to preserve the finish on outdoor aluminum, Butyrate lacquers now are available to provide lasting protection for quality wood finishes.

A new concept in color-stability for wood finishes

NON-YELLOWING, STAIN RESISTANT

BUTYRATE

TOP-COAT LACQUER

Finishing men like the handling characteristics of Butyrate lacquers, too. They are applied easily, quickly, with conventional equipment, and dry dust-free in minutes. Reward rubbing and polishing with a high luster.

Ask your lacquer supplier about Butyrate top-coat lacquers. They are your best protection for light-colored wood finishes. For more information and sources of supply, write EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENNESSEE.

HALF SECOND **BUTYRATE**

an Eastman film-former

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tenn.; Atlanta; Chicago; Cincinnati; Cleveland; Detroit; Framingham, Mass.; Greensboro, N. C.; Houston; New York City; Philadelphia; St. Louis.
West Coast: Wilson & Geo. Meyer & Company, San Francisco; Los Angeles; Portland; Salt Lake City; Seattle.

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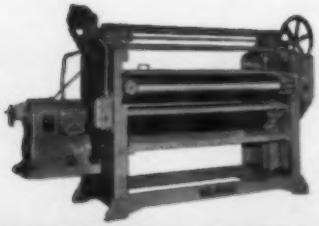
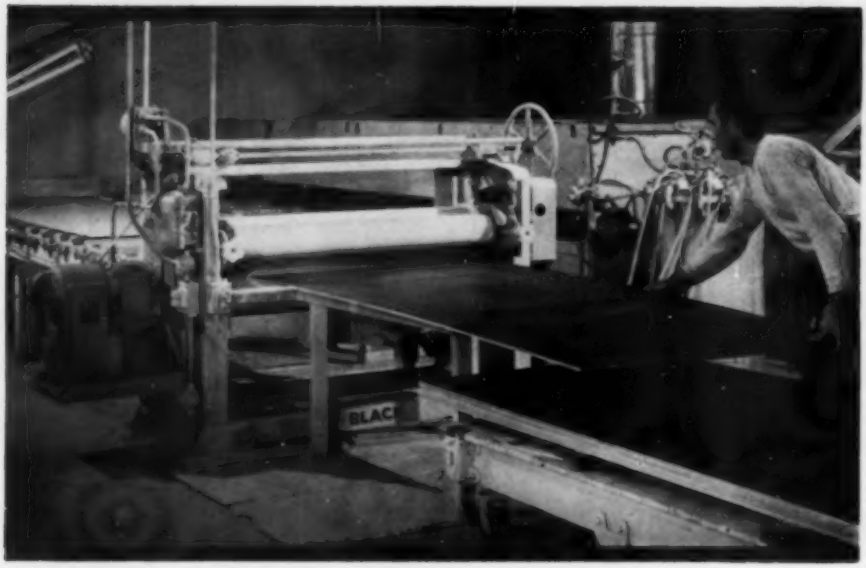


Black Brothers heavy duty roller coaters apply paints, lacquers, finishes, sealers, sizes, varnishes, stains, waxes, fillers, protective coatings, base coats, drawing compounds and other coatings to flat work such as wood, metal, plywood, composition board, hardwood, plastic, cardboard, cement board, etc.



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Patented Drip-Proof Reservoirs

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Ball Bearing Throughout

Micrometic Adjustments

Single or Variable Speed Drives

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Speed — accuracy — cleanliness — economy . . . you benefit *all* ways with Black's roller coaters. These heavy-duty machines are precision-engineered to assure extra fine film thickness control. Rugged, rigid construction eliminates costly production line breakdowns, prevents waste, maintains dependable high quality production. Put a versatile Black's roller coater to work for *you*. There's a model to do *your* job more efficiently, more economically. Write today for descriptive literature.

THE BLACK BROTHERS CO., INC.—Mendota 12, Ill. Since 1882

For more data, circle 161 on colored card.

The READER SERVICE *Department of*

Industrial FINISHING

Offers you additional information on the materials, equipment, accessories and supplies advertised in this issue. Just circle the numbers on the card below, identifying the advertisements in which you are interested; print or type your company's name and address, detach and mail. No postage required.

For further information on what manufacturers have to offer —literature, products, supplies, etc., mentioned in the editorial departments, use the "Reader Service" return card in the rear section of this issue, page 130.

Industrial FINISHING

October, 1960, Issue

Reader Service Department

Without obligation, please see that we receive additional information and literature on items featured in advertisements in this issue; identified by the numbers circled on this card:

☐ Second Cover ☐ Third Cover ☐ Back Cover

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152	163	174	185	196	207	218	229	240
153	164	175	186	197	208	219	230	241
154	165	176	187	198	209	220	231	242
155	166	177	188	199	210	221	232	243
156	167	178	189	200	211	222	233	244
157	168	179	190	201	212	223	234	245
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159	170	181	192	203	214	225	236	247
160	171	182	193	204	215	226	237	248
161	172	183	194	205	216	227	238	249

Name.....*Title*.....
(PLEASE PRINT)

Company.....

Street.....

City.....*Zone*.....

State.....

Send your inquiries to

INDUSTRIAL FINISHING Magazine for information about technical paint coating problems, methods and processes; and for sources of supply for organic finishes, equipment and supplies to be used in connection with surface preparation and conditioning, paint application, sanding, paint drying, and baking, rubbing, polishing, etc.

Surfaces to be completely or partially coated for protection, decoration or for any other purpose, include components and articles made of metals, plastics, woods, and composition materials; also paper, leather, rubber and fabrics.

The services of many testing laboratories, finishing consultants and special technicians are often available.

The inquiries are promptly answered. As a result, new products, materials and sources of information are continually being uncovered; valuable contacts are made and timely suggestions for future articles to be published are often developed.

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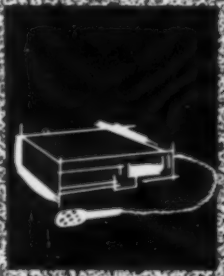
Industrial Finishing Magazine

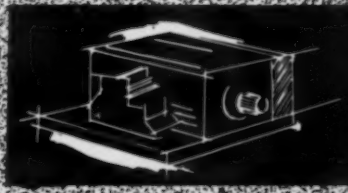
1142 N. Meridian Street

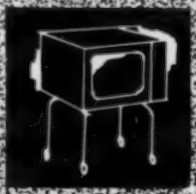
Indianapolis 4, Ind.

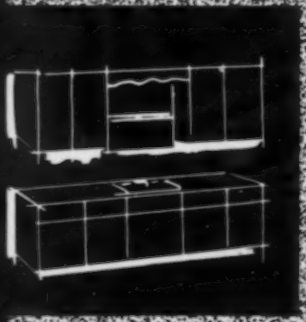
TWEED

multi-colored textured finish---









TWEED®

Quality leader of the industry

Offers unlimited variety of unique and pleasing color patterns

Eliminates costly finishing procedures

Prolongs life of finished surfaces

Easily fills and covers rough surfaces

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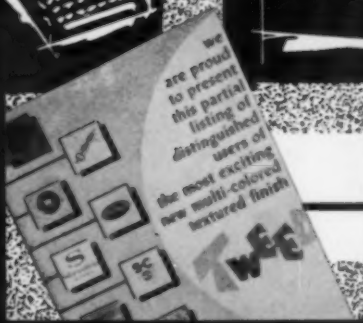
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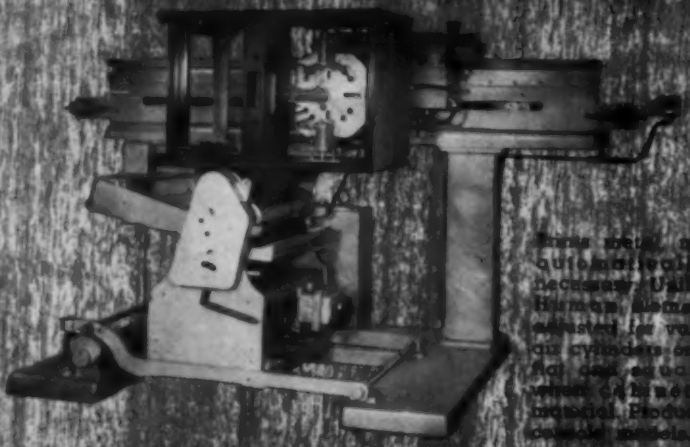

Runs metal, masonite or wood cabinets automatically. No jigs, no fixtures necessary. Uniform printing on composite. Human element eliminated. Quickly adjusted for various sizes. Cabinet held by air cylinders on inside, assuring a perfect, flat, non-smear printing surface even when cabinets are made of thinnest material. Production-2 per minute on large cabinet panels.

This machine is handling various sizes from the narrowest up to 36" wide for the printing of various sizes and thicknesses of panels, tables and similar work. Can also be used for edge printing. Explosion-proof motor is mounted beneath a cabinet base, eliminating fire hazards.

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This trademark is known not only in this country, but throughout the world for modern and highest quality printing machinery. Now manufacturing more than 40 different types and models.

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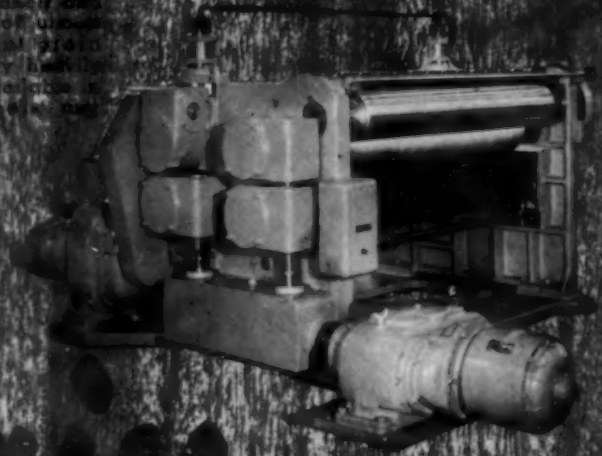
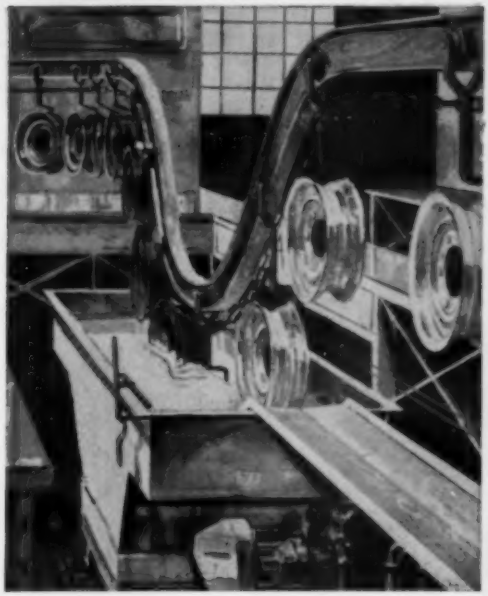


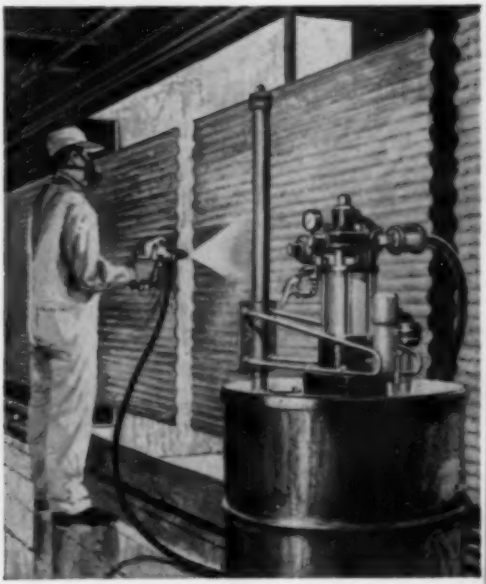
Grain

REPRODUCING EQUIPMENT

FLOW COATERS give quick, thorough coverage with high paint utilization.



DIP COATERS offer a simple, low-cost way to paint products of varying sizes and shapes.



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Can We Reduce Our FINISHING COST?

By C. Raymond Syer

THE TITLE OF this article poses a sound question for all plant superintendents and finishing foremen to consider. Obviously the answer will be "yes," but how is the best way to do it?

When we give serious thought to reducing the cost of finishing or painting a product, we do not mean to impair the quality of the finish. We know that it is possible to work out economies and at the same time improve the quality. We should also consider the possibilities of reducing labor fatigue, removing fire hazards as much as possible, and improving working conditions.

Generally the superintendent and the finishing room foreman are either too involved with production, with the personnel, maintenance and other problems—or too close to the work—to realize what can be accomplished, or how to go about setting up a plan to produce some worthwhile cost reductions.

A systematic approach for consideration would be to outline a

A survey to discover areas of wastefulness and excess costs, in the production finishing or painting department, should be conducted by men who are well acquainted with everything included in these operations.

well planned survey procedure. This survey must be properly planned in advance so that it covers all operations. The purpose of the survey is to obtain facts pertaining to the various phases of each operation and to record these facts for a complete study and report of findings, together with a report of recommendations for cost reduction and improvement in quality, etc., for management's consideration.

Who to Select to Uncover Excessive Costs and Wastage

The survey should be conducted by one of the firm's employees—one who has the background and knowledge to cover all of the details of present operations. He will surely uncover some facts about incorrect procedures being used daily over a period of time; perhaps many of these can be classified as "habit forming practices." Unless a well planned survey is conducted and studied, these practices will be overlooked.

A survey of surface cleaning and finishing or painting room activities and the materials being used, together with a study of possible cost reductions and improved conditions, are certain to show up quick opportunities. Uncovering and correcting wasteful practices will mean increased earnings through economies in those plants where controls and standardization procedures are lacking. In some cases you will find that savings are available without any capital investment being made for new equipment. The immediate savings can be earmarked and later applied to the cost of new equipment, thereby effecting additional savings.

Ten Typical Possibilities Uncovered by Surveys

Surveys and studies conducted by the author, during his many years in consultant activities, definitely prove that the following opportunities for improvements are available in most plants.

1) Productivity increase per man. (Incentive basis).

2) A decrease in the quantity of material used every work day by reducing waste and adopting new methods, training operators, etc.

3) An increase in paint mileage made by purchasing materials at the *cost per square foot coverage* rather than the cost per gallon.

4) Reduction of rejects by setting up a report of the causes of rejects and then removing those causes.

5) Reduction in line stoppage, excessive delays and bottleneck situations. This will increase productivity.

6) Reduction in utility costs such as heat (gas, oil or electricity) air, water and light.

7) Reduction in maintenance cost (new parts, upkeep or equip-

ment, etc.) by using preventive maintenance procedures (anticipating failures and break-downs before they occur).

8) Less labor fatigue; improved housekeeping habits and less hazardous conditions.

9) An increase in material utilization; less waste and spoilage of materials.

10) Improvement in quality.

The ten areas of examination just mentioned will reveal possibilities for reducing costs, increasing sales (because of improvement in quality meeting customer's satisfaction) and producing better relationship between employee and employer.

Results of What Surveys Revealed; Startling Disclosures

One survey disclosed that nearly $750,000 was being spent annually for labor and materials used in the surface-conditioning and finishing department. You can realize the necessity for establishing efficient operations in the finishing department when you consider a yearly expenditure of approximately $300,000 for labor, $350,000 for materials (primer, enamel and solvent), $40,000 for cleaning and phosphatizing chemicals, $11,500 for caustic stripper and $10,000 for spray booth compound—a total of $711,500 per year for labor and materials. In addition there were other charges such as maintenance labor, maintenance equipment and materials, gas, oils, light, electricity, steam, water, compressed air and many intangible costs.

Our survey showed that an annual savings of $215,000, at their current rate of sales, could be realized. Additional savings could be effected with the use of automatic equipment.

Another survey, conducted at an average size plant, disclosed that 60 gallons of enamel and 12 gallons of solvent were being used daily. The enamel was being reduced in the proportion of five parts enamel to one part of solvent. The cost of

Old habits and even some new kinds of wasteful practices can take a heavy toll in producing excessive costs in the surface preparation technique, in paint application methods and in the drying or baking procedures.

enamel at $3.75 per gallon, and of solvent at 38 cents per gallon (total 72 gallons) amounted to a daily cost of $229.56 or $3.187 per gallon for the reduced material. From our study we found that faulty practices were being used, resulting in the following losses per day:

1) Spillage and not thoroughly draining all of the materials from containers, 2½ gallons.

2) Overspray due to using too high air pressure and faulty spraying technique (allowed overspray 30%; actual overspray 53.8%, 17.1 gallons.

3) Rejects, amounting to 4% of daily production, returned for repainting, 2.9 gallons.

4) Excessive dry film thickness, 10%, 7.2 gallons.

These daily losses totaled 29.7

gallons; cost $94.65 per day. At five days per week this amounted to $473.25. In 52 weeks this loss amounted to a grand total of $24,-609. And this figure does not include labor cost for repainting.

Habit Forming Practices Can Prove Very Wasteful

In a large industrial plant where a survey was conducted, the management's attention was directed to the fact that they were using 14,-300 gallons of lacquer solvent per year. The solvent cost was 81 cents per gallon; 90% of this expensive solvent was being used to clean pipe feed lines and spray gun equipment; 10% was being used for miscellaneous cleaning. Because of a habit forming practice, the dirty solvent was allowed to flow or was being sprayed into the waterwash compartment of the spray booth, contaminating the chemical being used as a defloculator.

"Just don't let this become a habit forming practice. . . .".

After making the necessary evaluation test it was recommended that they use a different solvent—one costing less than one half the price of the lacquer solvent they had been using. It was also recommended that they save the dirty solvent for reclaiming, and discontinue the practice of emptying it into the waterwash compartment. This recommendation resulted in reducing the amount of chemical generally used by 50%. The total annual savings were:

Using a different solvent	$ 6,292
Reclaiming solvent	1,500
Need for less chemical	5,000
Total annual savings	$12,792

Value of Mileage Test in Finding True Painting Costs

Mileage evaluation tests are as important as other evaluation tests, such as color, salt spray, etc. Conducting the tests is the only sound way to determine the "cost per square foot per gallon" for modern competitive purchasing, quality being equal.

During one survey I have in mind, mileage evaluation tests were conducted. Production figures obtained showed that the plant had finished 18,750,000-sq.ft. of steel during the past year. In evaluating two suppliers' materials for actual cost per square foot, at 1-mil dry film thickness, a difference of $0.0025 per square foot was disclosed. Incidentally, the lower cost material proved to be the highest cost per square foot. The savings that could be obtained in this case

would be $46,875 per year. This amount was worth consideration and steps were taken to obtain it.

The mileage tests conducted during this survey demonstrate how much loss can occur over a period of one year when such tests are ignored.

When conducting evaluation tests for mileage, many other important factors can be determined. For example:

1) Application qualifications, such as ease of applying the coating material to obtain the desired hiding; also, to prevent sags or too thin a coat.

2) Number of rejects due to changes required in formulation.

3) Number of spray strokes required to obtain a uniform film and the required dry film thickness. The use of fewer strokes helps to increase the production rate.

The points just mentioned are important for meeting production standards where incentive rates are in order.

Train Spray Operators in Correct Spraying Technique

During a survey conducted in a fairly large plant it was determined that the cost of enamel and solvent being deposited upon the ware amounted to $160,000 per year. Startling as it may seem, an equal amount of enamel and solvent was being wasted through overspray, repainting of rejects, spillage, etc. The largest proportion or percentage of loss was due to faulty spraying, overspray, an excessive dry film thickness which caused sags and, of course, rejects. Manual spraying was being used.

Other methods of application were recommended (and management accepted them) to reduce this large loss. However, it would be several months before the new equipment could be obtained and installed to handle the large volume of production. But there was an opportunity to effect immediate savings with their present method by training operators to use better methods of spraying. Through the use of correct spraying technique, the savings in material consumption amounted to $83,300 per year. It was estimated that, with the new equipment, a savings in material and labor would amount to well over $250,000 per year.

During the training of operators, a lot of time was spent in teaching them to reduce the number of strokes by using a slower

"If my theory is right, we will get more miles per gallon of paint from this new compact model."

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years' leadership in industrial cleaning

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It's surprising what you can find when you start looking and perhaps asking questions. For instance, suppose you pause at a typical operation and ask yourself or the individual who accompanies you, "Isn't there a better way to do this—a way that is faster, less wasteful, less tiring, less hazardous and yet one that will improve the appearance and quality of our products, and at the same time give us fewer rejects?"

motion and proper over-lapping. Many foremen and spray operators have the false idea that a fast motion of the spray gun covers more surface, and that if they slow down their stroking, production will fall off. Count the number of strokes necessary to properly finish a product when the correct rhythm in handling the spray gun is learned and you will see the difference. Fewer strokes mean less overspray, less labor fatigue, less rejects and more production per operator, not to mention the more uniform coating and the improved quality of workmanship.

When you see a spray operator using a gun like a garden hose, stop him and teach him the proper spraying technique by using rhythm and proper triggering of the gun at the beginning and end of each stroke. Sure, he will tell you at first that it retards production, but stick to the correct method and at the end of the day take an account of the increase in production and the reduction in the material consumption. The saving in materials alone will more than justify the effort of training spray operators.

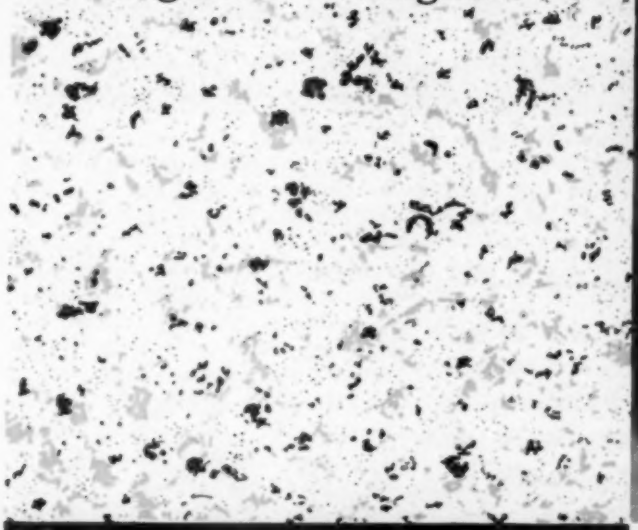
Leading manufacturers of spray equipment conduct several free classes in correct spray painting and spray finishing every year. Instructions and demonstrations are given by experts. Every spray operator should be sent to one of these classes. Everyone will come back and do better and faster work and he will waste less material. And remember, this improvement and saving, on the part of each spray operator, goes on every hour of the day that production is under way. Think of what it will amount to in a year's time.

Supervision should see to it that all factors that influence economical spray application are started, used and maintained. This is the important factor involved in reducing overspray and rejects.

Find the Causes of Rejects; Then Remove Them

During a survey procedure it is always better to show the actual cause of rejects, rather than to merely show the number or percentage of rejects. A suitable reject record should be used for listing: 1) production, 2) cause of rejects, and 3) percentage of rejects to total daily production. Plant superintendents and finishing foremen have used this system with gratifying results. This device has been

LASTING Eye Appeal
PLEXTONE®
multicolored textured finish for imaginative designers



In little more than a decade, Plextone has become an accepted industrial finish. Continuous research has resulted in new colors, new design effects, greater durability, wider application. Today, this textured, multicolored industrial finish has reduced costs up to 35 percent. Its one-coat application of two or more interlaced colors is sprayed at **one** time, from **one** gun! Shown above is just one of many pre-mixed Plextone colors available for prompt shipment.

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the spark plug behind investigations which resulted in savings.

The application of the plan is simple. Make a daily record on a form showing all rejects by type for that day. At the end of each day study your summary. In some cases the cause of the rejects might be well known. Sometimes the reason will be obscure and careful investigation may be necessary. In the majority of cases, the foreman's experience will suffice. He will revaluate each finishing operation, the arrangement of the working area, the skill of the operator —each one in terms of the cause of rejects.

Paint failures give you something to think about, and maybe a lot to learn. Was it the baking? Non-uniform heating and ventilation in the oven? Lubrication of forming dies? Unclean compressed air used for spraying? Paint viscosity not correct or uniform? There are many other likely causes.

With exact causes of rejects established, plus possible means of correction, the superintendent is now in a position to determine how much the rejects are costing and how much it would cost to remove the causes.

With interest in reducing rejects, much can be accomplished in the way of reducing material and labor costs. In one plant a survey study showed the percentage of rejects to be 11½%, which is extremely high. However, this condition did exist, and only through the survey procedure was it definitely brought to light so that action could be taken to reduce this high percentage of rejects. Corrective measures reduced labor and material cost to as much as $35,000 a year.

In almost every product it is the finish that always meets the critical eye of your prospective buyer. It is nearly impossible to sell a buyer on other features when the finish is obviously something less than attractive and durable.

The examples just given present some of the actual savings that were made through well-planned surveys of operations, together with giving intelligent thought to the adoption of corrective procedures. Many other examples were uncovered. Whenever time is allowed to study each and every phase of all operations there always seems to be the possibility of effecting savings and improving quality.

Standard Toch Industries

Mr. H. H. Rittenhouse has been named President of Standard Toch Chemicals Co., which is the principal manufacturing division of Standard Toch Industries, Inc. Mr. Rittenhouse is also a Vice President of the parent company.

Mr. Richard Gohman has been named a Vice President of the company.

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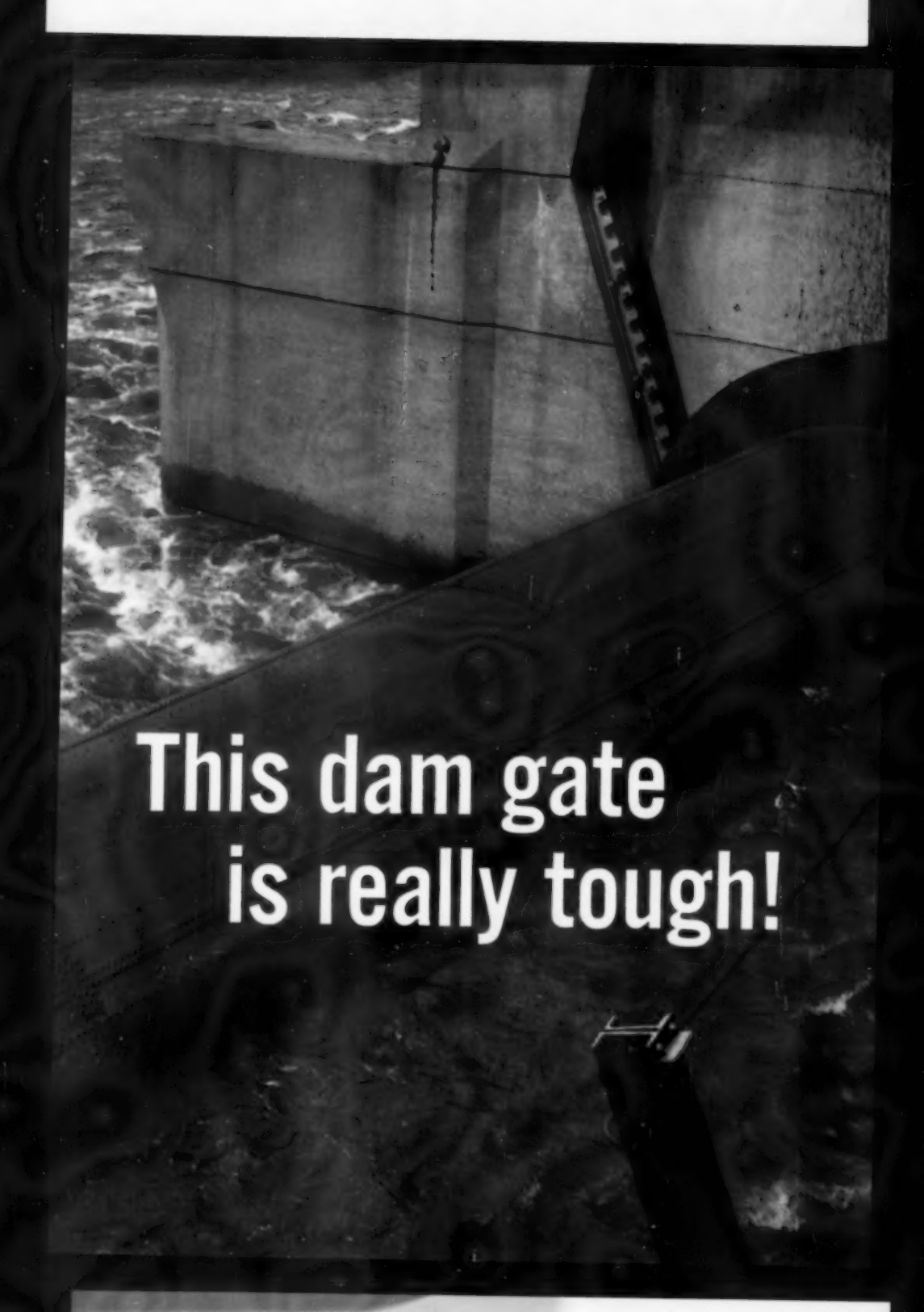
This dam gate
is really tough!

John H. Witte & Sons of Burlington, Iowa, has toughened many a dam gate throughout the country. They make a vinyl resin paint that the U. S. Army Corps of Engineers uses to coat various steel sections of dams and locks. The vinyl coating protects the metal from corrosion even though exposure to abrasion from debris is severe. It makes steel structures last longer.

When applied to clean metal by hot spray, the coatings have exceptional adhesion and resistance to underfilm corrosion. They dry within

John H. Witte, Jr., Senior Partner of John H. Witte & Sons, supplier of quality industrial finishes since 1930.

Earl Dorethy, Plant Superintendent, and James B. Fitzgibbon, General Manager of the Resin Division, check the controls on the Synthetic Resin Reactor.

minutes; maintenance painting requires only minimum time. No wonder this type of vinyl coating is one of the standards used by the U. S. Army Corps of Engineers on lock and dam structures throughout the country.

When Witte's chemists make vinyl coatings, they use only the best grade chemicals—top-quality chemicals like USS Toluene, a product of United States Steel. This high quality nitration grade toluene provides the uniformity necessary for government specifications.

Howard Griffith, Assistant Supervisor, Robert Baker, General Manager of the Paint Division, and Frank Schauweker, Technical Director, compare vinyl coating samples.

This is one of the 100-foot roller gates on Lock and Dam #15 that spans the Mississippi River at Rock Island, Illinois.

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TOLUENE...
the start of a good finish

Nitration grade toluene from UNITED STATES STEEL is the quality material that helps coating specialists like John H. Witte & Sons produce quality vinyl resin protective coatings . . . USS Toluene can assure quality in your product, too.

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Continuous Strip Coating

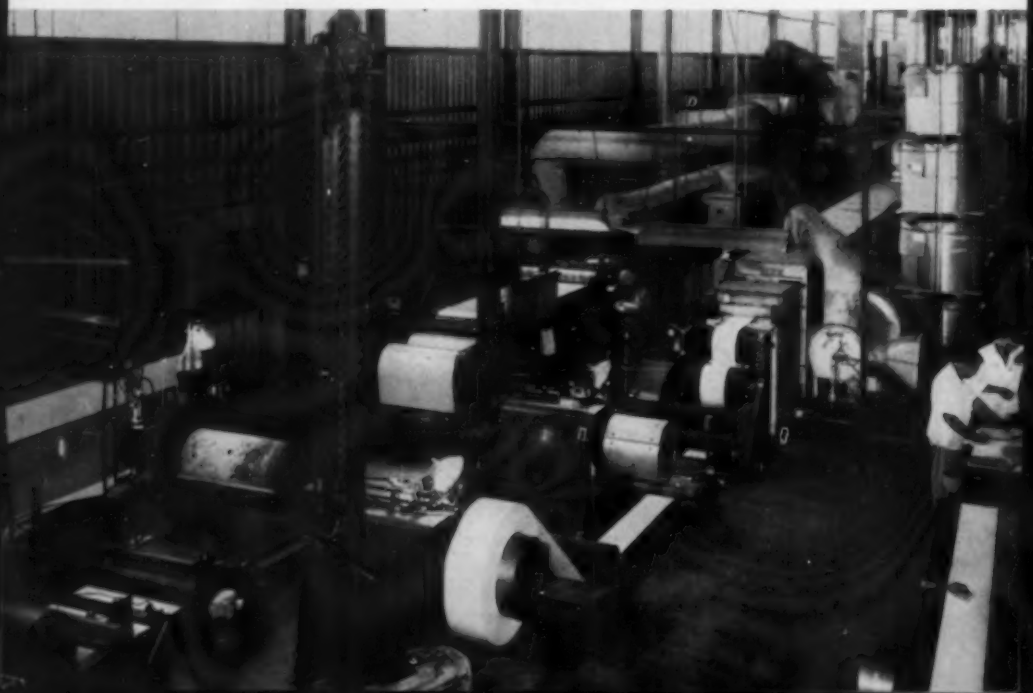
plus cleaning, surface conditioning and baking

Applies Colorweld Finish

By M. L. Peek, Manager Atlanta Plant
Reynolds Aluminum Supply Co.
Subsidiary of Reynolds Metals Co.

COLORWELD is prefinished aluminum strip in coils, the end use of which seems to be unlimited. Its use is not confined to formed and fabricated products as such; it reaches out into the building and construction industry where it is used for siding, awnings, shutters, gutters, downspouts, carports, porches, mobile homes, etc.

Here you see recoil mechanisms at the ends of both the 36-in. and 18-in. finishing lines. Note the solvent vapor burning equipment on top of the oven at left. On right hand line, note the cold water cooling unit at end of oven, with strip passing between squeegee rollers. The next two rollers toward you are the tension rollers that support strip throughout the system. Similar tension rollers are located at the entering end of the ovens.



Aluminum strip is uncoiled at right; close by is the stitching or stapling machine which splices the squared ends like you splice a belt. To the left, rising high in the air, is the accumulator which permits a continuous flow of endless strip.

Photographs, courtesy Gasway Corporation

The finish is the thing. Colorweld is produced in 20 standard colors; the customer can obtain the same color on both surfaces or a different color on each side, or special colors on order. Embossed patterns like wood grain, leather, diamond and stucco are available. The embossing is done *after finishing*.

Colorweld Finish Is Designed for Specific Uses

Much research has gone into the Colorweld finish. These baked on, high quality finishes are applied under controlled conditions that few fabricators could duplicate except at an almost prohibitive outlay of capital.

The type of enamel (resin base) used in finishing Colorweld is selected according to the end use and to fabricating requirements. Under the first heading would come exposure, gloss, abrasion resistance, etc. In the second category, the radius of bends and the type of embossing (if any) would influence selection of the coating material. For instance, for producing a wood grain embossing, a straight vinyl material is used because, in forming this pattern, the embossing rolls cause a "draw" of the finished metal that calls for extreme flexibility.

The film thickness of the finish also depends on the end use and fabricating requirements of the

metal. For some products a wet film of 4 to 4½-mils is applied on the face of the strip, and 2½-mils on the back. This results in a dry film thickness of 1-mil on the face and .8-mil on the back. Unlike the finish applied to automobile bodies, appliances, etc., the Colorweld finish is designed for specific uses and fabricating demands. That is the reason it is so successful.

Automatic Coating Lines Are 300-ft. in Length

Two identical, automatic lines are used in finishing Colorweld. One line is for strip stock 36-in. wide; the other is for 18-in. strip. The lines are 300-ft. in length and the aluminum strip is fully suspended under tension from paint rollers to recoiling. From the time it is uncoiled at the start of the line until the painted strip (cleaning and surface treating included) is recoiled at the end of the line, it is unsupported except by tension.

Close-up of stitcher which joins aluminum strip ends to make a continuous sheet. The flat wire at top is used for stapling the metal. This is a fast operation.

The 36-in. system includes accumulators at the beginning and the end of the line. An accumulator does just what its name implies; it accumulates several strands of endless strip between pulleys, one set of which are movable, so that workmen will have time to splice the vanishing end of one strip to the oncoming end of another strip without stopping the continuous processing operations. The arrangement is such that workmen are allowed a 40-second interval of time in which to either cut off or to stitch (with metal staples) the end of one aluminum strip where it is butted up to another at the end or beginning of a new coil. Ordinarily these operations require only 20 seconds.

Aluminum Strip Is Cleaned, Etched and Dried

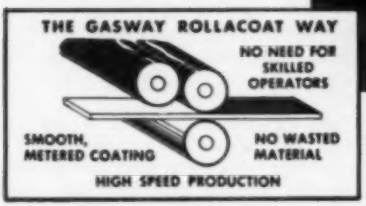
The aluminum strip passes through a 5-stage metal washer in which it is cleaned and the surface is etched to insure good adhesion of the paint. In the first stage a mild alkali, with detergent added, is applied to both sides at 150° F.; this is followed by a cold water rinse. In the third stage a mild chromic conversion coating solution is applied at 110° F.; next comes a cold water rinse, and in the fifth stage a mild chromic acid solution at 180° F. is applied. The strip then passes through a vertical dry-off oven for 30 seconds at 125° F.

Color Coat of Enamel Applied by Roller Coater

The clean dry strip passes through a double roller coater in which the same or a different color

Prefinishing of Metal Strip by GASWAY

DON'T MISS THE COMPLETE REYNOLDS STORY IN THIS ISSUE!



Complete 36" strip coating line installed at Reynolds Aluminum Supply Co. The line is completely automated—raw coil stock to coated and baked finish. Reynolds also employs an 18" Gasway strip line for its high speed pre-finished metals program.

UP TO 5,000 FEET PER HOUR—Cleaned, primed, coated and baked.

COATS EITHER OR BOTH SIDES at the same time with the same or different colors, or materials. Applies lubricants, preservatives, electrical coatings as well as decorative finishes.

MORE UNIFORM FINISHES—Metered finish is rolled evenly on the work. Film thickness is controlled to within one-tenth of one mil, for economy and uniform baking.

SAVES UP TO 50% on paints, enamels or other coating materials.

Application of tough elastic coatings permits forming after finishing.

NO HANDLING, other than of coiled stock. Continuous-type Gasway Rollacoaters perform every function from cleaning and treating to coating both sides, baking and recoiling all in a single pass. Some of the users of this equipment to speed up production and reduce cost are: *Reynolds Aluminum Supply—Lithostrip—Rollcoater, Inc.—American Nickeloid—Allweather Steel—Comaco—Hi-Ten.*

INFORMATION AVAILABLE at no obligation to you. Regardless of large production rates or intermittent manufacturing, there's a Gasway Rollacoater to fit your needs. *Send for the whole story.*

GASWAY CORPORATION
6463 North Ravenswood Ave.
Chicago 16, Illinois

LOOK TO GASWAY FOR EFFICIENT HIGH PRODUCTION COATING OF STRIP, SHEET OR PANELS

For more data, circle 170 on colored card.

In this roller coater 36-in. wide aluminum Colorweld is coated with the same or different colors on both sides. The roller coater is intended for continuous production.

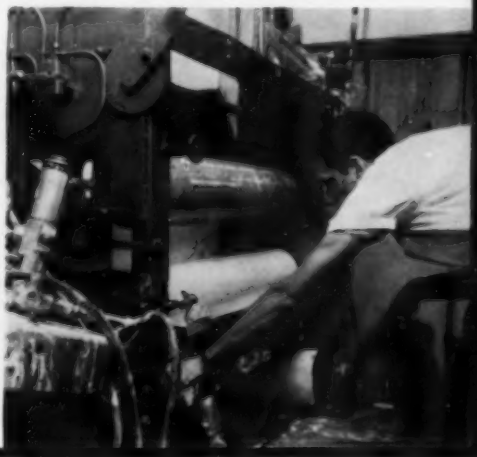
of enamel can be applied to each side of the aluminum. For some end uses of Colorweld the coating rolls are adjusted to apply a wet film thickness of 2½-mils of an alkyd-resin-base enamel. The viscosity at which this material is applied is 40 seconds at 80° F., as measured in a No. 4 Zahn cup. A wet film coating of this thickness will dry to a final film thickness of .8-mil.

Solvent Vapor Utilized to Add Heat in Convection Oven

A flash-off period of 12 seconds elapses before the aluminum strip enters a 5-zone, indirect-fired, gas convection oven; it is in the oven for one minute, 12 seconds. Zone temperatures in the oven are as follows: 200°, 300°, 400°, 500° and 475° F.

A system for safely burning solvent vapors removed from the oven is arranged to provide additional heat for the oven. A specified percentage of solvent vapor is exhausted from the first one third length of the oven. These vapors are forced through a chamber wherein gas is used to raise the vapor temperature from 300° to 600° F. The volatiles do not burn until the heated vapors are passed over a platinum grid catalyst; then the vapor ignites and burns, raising the temperature of the air in the chamber to 1200° F. This heated air is then directed into the various zones of the oven. We are permitted to use 40% of the lowest explosive level of solvent vapor. The system is equipped with a gas analyzer that continuously records vapor concentration; also, there is a warning signal system that sounds an alarm first and then automatically shuts down the entire oven when or if the vapor concentration ever becomes dangerous. [*To page 46*]

Uniform film thickness and color control are assured on 36-in. wide aluminum strip that goes through this roller coater. The enamel is pumped directly from the drum which is fitted with a special drum head with an air-driven agitator and pump. The same or different colors may be applied to each side of the aluminum strip.



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Use Prep Products for better results—better quality, low operating cost—low maintenance cost—the complete line for every purpose in your pre-painting program. We supply the complete "package" along with the technical know-how and experience to fit your particular needs. Tell us your problem—Let us make recommendations—Write today.

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Los Angeles, Cal.
Windsor, Ontario

For more data, circle 171 on colored card.

These are the corrugating rolls of the machine that produces various corrugated shapes from painted aluminum Colorweld.

The heat provided through burning of solvent vapors accomplishes two things. First it permits an increased volume of exhaust throughout the entire oven, with no increase in gas consumption. As a result, there is no fouling of the oven; and we obtain a much better, clearer baked finish. Secondly, even with the increased volume of exhaust or solvent vapors, no exhaust fumes spread around the neighborhood from the exhaust stacks. Incidentally this makes for better public relations.

Leaving the bake oven, the endless strip of aluminum passes through a cooling tank where cold water is sprayed on both surfaces to cool the metal. Excess water is then squeegeed off as the strip passes between rubber rollers just before it reaches the accumulator and recoil mechanism.

Quality Control Lab Tests Samples and Finished Strip

We operate a complete quality control laboratory. The company that supplies our finishing material submits a marked one-pint sample of each color of each shipment of enamel, in advance of the shipment. Our laboratory applies the enamel to test panels under the same controlled conditions that prevail in actual production. Then the sample panels are tested for film thickness, hardness, abrasion and gloss. To further check our results, actual enameled sections are taken from the finished strip for testing against the pre-shipment sample. These sections are taken as the strip is cut off at the recoil station at the end of the finishing line.

All enamel is pumped directly from the original shipping drums to the roller coaters by means of special drum heads each of which is fitted with an air-driven pump, a filter and an agitator, the latter keeping the pigment fully suspended at all times. The viscosity of each color is tested hourly to make sure that our pre-established standards are strictly maintained.

It is only through planned maintenance, close supervision and positive controls that any automatic finishing system can be successful. We are convinced that our Colorweld finish is an essential factor in producing an attractive, durable and functional product wherever that product may be used.

For more data, circle 172 on colored card. ——→

ell-bee makes Water White Lacquer

Modern furniture (especially the lighter shades) demands a water white lacquer . . . a clear lacquer that contains high solids and is non-yellowing. Ell-Bee water white lacquers provide this exceptional product . . . high in quality . . . low in cost. All Ell-Bee water white lacquers and sealers are available for hot or cold spray in any sheen, permit excellent build and are mar resistant; also excellent cold check resistance. Find out now what Ell-Bee water white products can do for you!

Send us your lacquer problems . . . our technical staff is at your disposal.

ELL-BEE

ELL-BEE Chemical Company, Inc.

Hanover, New Jersey / TUcker 7-1750

Westinghouse offers completely new concept in ultrasonic cleaning equipment

Two recent technological developments—our exclusive Trinistor* solid state circuitry and the new space-laminated magnetostrictive type Magnopak* transducer—have enabled Westinghouse to develop a complete line of ultrasonic cleaning systems (described below) which are much smaller and clearly more efficient than the competitive systems now available. In addition, these new systems provide unmatched reliability, sturdiness, and cleaning performance.

Literature is available which describes the various features of these new Westinghouse systems, and we'll be glad to send it to you if you would like a copy. Or perhaps you would prefer to discuss your particular cleaning problem with a Westinghouse ultrasonics engineer. In either event, just call, wire, or write to Mr. Albert Valente, Industrial Electronics Dept., Westinghouse Electric Corporation, 2519 Wilkens Ave., Baltimore 3, Md. *You can be sure . . . if it's Westinghouse.*

Westinghouse

Standard Ultrasonic Cleaning Systems—consist of suitably-powered ultrasonic generator and transducer/tank

Model	Watt Intensity Per Square Inch	Tank Capacity	Tank Dimensions (Width, Length, Depth)	Generator Power Output (Watts)	Price
WE-10	3 or less	1½ gals.	8¼" x 7¾" x 6"	150	$ 540
WE-20	3 or less	5 gals.	13¾" x 11¾" x 8"	300	995
WE-30	3 or less	5 gals.	13¾" x 11¾" x 8"	500	1,440
WE-40	3 or less	10 gals.	19⅝" x 11⅝" x 10"	500	1,710
WE-60	3 or less	16 gals.	20" x 16" x 12"	750	2,275
WEH-10	3—5	1½ gals.	8¼" x 7¾" x 6"	300	$ 805
WEH-20	3—5	5 gals.	13¾" x 11¾" x 8"	750	1,630
WEH-40	3—5	10 gals.	19⅝" x 11⅝" x 10"	1,000	2,165
WEH-60	3—5	16 gals.	20" x 16" x 12"	1,000	2,540
WEHH-10	6—11	1½ gals.	8¼" x 7¾" x 6"	500	$1,250
WEHH-20	6—11	5 gals.	13¾" x 11¾" x 8"	1,000	1,805
WEHH-40	6—11	10 gals.	19⅝" x 11⅝" x 10"	2,500	4,050
WEHH-60	6—11	16 gals.	20" x 16" x 12"	2,500	4,425

Console Mounted Ultrasonic Cleaning Systems—consist of ultrasonic generator, transducer/cleaning tank, and controls—all mounted in portable, roll-about console

PM-WE-20	3 or less	5 gals.	13¾" x 11¾" x 8"	300	$1,795
PM-WE-40	3 or less	10 gals.	19⅝" x 11⅝" x 10"	500	2,480
PM-WEH-20	3—5	5 gals.	13¾" x 11¾" x 8"	750	$2,425
PM-WEH-40	3—5	10 gals.	19⅝" x 11⅝" x 10"	1,000	2,960
PM-WEHH-20	6—11	5 gals.	13¾" x 11¾" x 8"	1,000	2,690

(**Note:** Custom-made Westinghouse ultrasonic cleaning systems are also available. All prices and data subject to change without notice.)

* Registered Trade Mark

J-35019

NEW PORTABLE CLEANING SYSTEM features generator, transducer, tank, and controls all mounted in a single compact roll-about console. This is our model PM–WEHH–20.

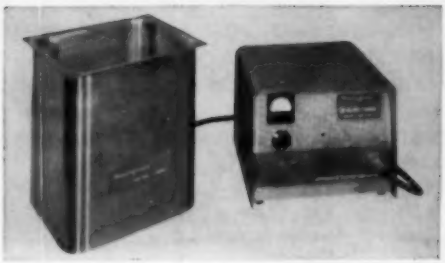
$2690

Right:

SMALL TABLE-TOP CLEANING SYSTEMS are especially useful for cleaning bearings and other complex mechanical assemblies. Here are small units packed with power, yet available at low cost.

Model WE–20 **$995**

Model WEHH–10 **$1250**



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For more data, circle 173 on colored card.

the POLYESTER finish

By P. C. Bardin, Associate Editor

JUST WHAT IS the polyester finish? What are its merits and features? How is it applied? How cured? These are just a few of the questions that come to the minds of many finish users today. Originating in Europe, the finish is particularly suited to European requirements for a finish; however, it is possible to adapt this finish to conform with some American standards.

Research has been conducted in this country for the past five or six years, and we might say with justifiable pride that, as a result, great improvements have been made to adapt this new finish to American standards in furniture finishing. Numerous sample demonstrations have been made of the polyester finish in furniture plants, along with a number of pilot production runs; however, I am now informed that there has been relatively little actual production with this coating.

Characteristics of the Polyester Finish

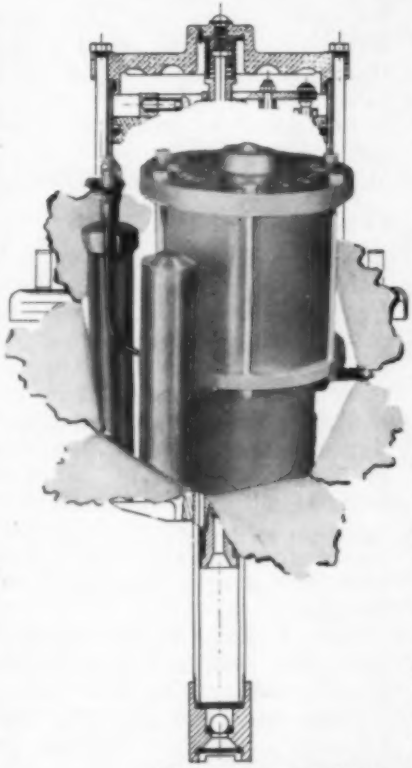
Two types of polyester finishes are available; one contains wax; the other is wax free. Basically the material is composed of polyester resin dissolved in styrene, with cobalt as an accelerator, and other materials added to control flow, improve film build, etc. A peroxide is used as a catalyst. When the cobalt and the peroxide are joined in the film, heat is generated which cures or polymerizes the finish.

One type of this coating material will not cure properly in the presence of moisture (high humidity); this is the reason for adding wax to the material. After application, the wax rises to float on the surface, protecting the finish from overly moist air. In the other type, the material is relatively unaffected by high humidity, hence no wax is used in it. The latter type of finish is more expensive than the wax type. It can be formulated to produce any desired gloss and sheen. Both types of material have very short pot life after the catalyst is added to the resin and accelerator.

It is my understanding that in Europe just enough of the material is mixed to spray perhaps only one piece, say in five to eight minutes; then another batch must be mixed for the next piece, and so on. Obviously such procedure would not fit in with American production standards and costs. To a great extent the limitations due to this short pot life have been somewhat overcome, as will be explained in methods of application to be taken up later in this article. [*To p. 52*]

A MAJOR BREAKTHROUGH IN AIRLESS SPRAYING!

Now You Get Both Power and Volume With the **First Pump Designed Specifically for Conventional or Heated Airless—THE ATLAS II PUMP!**



Here's why! Until now, motors on most airless units were not designed for airless use. This meant a shortage of power to get desired volume, or volume was sacrificed to get sufficient power.

To overcome this problem, Spee-Flo developed the HydraAirless 30 featuring the Atlas II pump, a big pump designed specifically for airless spraying. It provides 50% more power (30-1 ratio) and 40% more volume. Materials, formerly impractical to spray, are handled easily by the HydraAirless 30 and THE H-GUN, the only gun that provides total atomization. The big HydraAirless 30 loafs on conventional applications — has plenty of reserve power for the toughest jobs.

For complete information on the HydraAirless 30 and THE H-GUN, contact your nearest Spee-Flo distributor or write to Spee-Flo Company, 6614 Harrisburg, Houston 11, Texas.

Spee-Flo creates a new era for airless

6614 HARRISBURG The SPEE-FLO Company **HOUSTON 11, TEXAS**

For more data, circle 178 on colored card.

[*Continued from page 50*]

Because the finish is polymerized by heat generated by the combination of the catalyst and the accelerator, the heavier the film the more heat is generated. Film thicknesses range from 5 to 15 or 16-mils, with the optimum being about 8-mils. Application of so heavy a film is not too difficult because the material is applied at nearly 100% solids. Up to now it has been practically impossible to obtain proper polymerization of the material in a film thickness much less than 8-mils. Some formulator may now, or in the future will, be able to reduce this film thickness and still get proper curing of the finish.

The polyester finish does not require forced drying to cure. However, after a set-up or gel period of perhaps 30 to 45 minutes, forced drying will speed up the curing of the film. If the wax type polyester is used it will be necessary to keep the oven temperature below the melting point of the wax. If the wax, which is floating on the surface of the film, is melted it will allow moisture to contact the material and the finish will not cure.

Some Merits of the Polyester Finish

What are some of the merits of a polyester finish? It is an extremely tough, hard, highly chemically-resistant coating. It has great depth and clarity. The finish is highly resistant to burns and abrasion. This coating on the tops of tables, desks, counters or other furniture is resistant to cigarette burns, although it cannot prevent continued heat from charring the wood under the film if a cigarette is allowed to burn itself out on a coated table top. Some progress is being made in this direction through the use of aluminum foil laminated under the face veneer of wood tops.

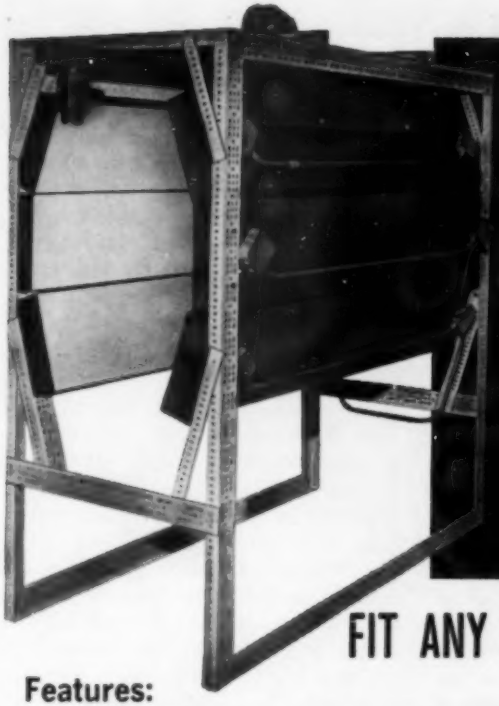
The polyester finish is valuable for furniture finishing because it resists boiling water, alcohol, household detergents, nail polish and polish remover, lip stick, etc. It is equally valuable for hospital furniture and equipment, since it is unaffected by solutions of sulfuric acid and nitric acid, iodine, alcohols, merthiolate, etc.

Limitations of the Finish

Possible limitations of the polyester finish include the compulsory heavy film thickness, with consequent cutting down after curing to meet the American finish demand standards. This is particularly true with the wax type polyester finish, because enough of the film must be removed to get rid of all of the wax. If all of the wax is not removed a haze will form on the surface and, regardless of how many times this haze is removed, it will reappear.

Very meticulous and absolutely controlled application procedure, embrittlement, danger of serious sagging of the heavy film when applied to vertical surfaces, and difficulty in repairing the finish—these features should also be included in its limitations.

Some progress is being made in overcoming some of the limitations through American ingenuity. For example, the excessive film thick-



NEW RediRay® MODULAR INFRA RED OVENS

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INFRA RED SYSTEMS INC. 240 Route 23, Riverdale, N. J.

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ness is being cut down by the skillful use of stroke or belt sanders. Portable hand sanders will not do the job fast enough.

The short pot life characteristic is being met by uniting and mixing the material and its catalyst when and while the spraying takes place. Metering devices control the exact quantity of catalyst that is added, and catalyst spray guns permit the use of two pressure tanks, one for the resin and accelerator, and one for the catalyst. However, great care must still be used if success is to be had in using this material.

Embrittlement can be reduced somewhat by using a special sealer coat which is sprayed on before applying the polyester finish. This use of a sealer coat seems to lend some flexibility to the final polyester film. Little if any progress has been made so far in preventing sagging of a heavy film when applied to vertical surfaces. Improved thixotrophy will reduce the tendency to sag. However, on the other hand, this may cause orange peel that would be difficult to rub and polish out in a tough, hard film. Perhaps the better plan, at this time, would be to confine application of the polyester finish to flat level surfaces, such as tops, and to coat the vertical surfaces with conventional materials.

Methods of Application

Polyester finishes can be applied in any one of several different ways. One method, as mentioned before, is to use two pressure tanks; one tank contains the resin and accelerator while the other tank has the catalyst. Then, with a proper metering device and catalyst spray gun, the film is applied. The short pot life is no problem.

For application on sheet stock or KD furniture parts, a double headed curtain coater has proved to be very successful. The catalyst is applied by one head of the machine and the resin and accelerator by the other head. Short pot life is no problem here, either.

Another application method is to use two pressure tanks, one containing resin and accelerator, the other containing resin and catalyst. Two hose deliver the materials to a single conventional spray gun where they are mixed in the air stream. In this case it is imperative that the viscosities of all of the materials be exactly maintained so that the correct amount of each material arrives at the spray gun at the same time. Viscosities must be constantly checked.

Another method of applying this finish is to first apply a special sealer which is activated by the catalyst. When the sealer coat is dry, the resin and accelerator can be sprayed. Even though the sealer coat is dry, the catalyst will react with the accelerator to cure the finish. In the event the sealer coat should be force dried, oven temperatures should be kept down to between 85° and 100° F.; in no case should oven heat exceed 100° F.; the peroxide catalyst would be destroyed at a temperature of 104° F.

To Fill, To Seal or Not?

It is difficult to set forth definite finishing systems for a polyester finish. First, not much practical experience has been gained in ac-

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Industrial finishers using solvents for thinning or cleaning, whose plants are located within the shaded areas on this map have access to APCO Industrial Naphthas—known throughout the industry for 35 years as the "UNIFORMITY" line. Here are some of the good reasons behind this reputation for uniformity:

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6006

Reduce drying time to minutes... cut application costs... enhance performance by modifying conventional alkyds with ADM's remarkably compatible, fast air-dry alkyd

The remarkable compatibility of AROPLAZ 6006 is cutting costs and solving problems in a host of fast air-dry and quick bake industrial applications. Auto refinishing king, Earl Scheib, whose nation-wide system of shops repaint half a million cars a year, cites a prime example: "Modifying a conventional alkyd with AROPLAZ 6006 enables us to reduce drying time 15 minutes on the average. Rejects and returns caused by water spotting, dust pick up, or paint failure have been virtually eliminated."

Chances are you can benefit by blending AROPLAZ 6006 too. This pure alkyd air dries with the speed of lacquer . . . yet is as durable as quality alkyd-melamine baking enamels. Its outstanding compatibility with long or short oil alkyds and aliphatic solvents lets you achieve special performance features . . . at great economy. Contact your paint supplier today for more information on this important ADM development . . . AROPLAZ 6006.

Photo: Courtesy Earl Scheib, Inc., Los Angeles, California

GOING PLACES . . . in a sparkling car repainted just minutes before with super-fast, air-drying alkyd, AROPLAZ 6006.

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tual production. Second, different formulations of the polyester finish, just as in conventional coatings, will produce combinations that will affect the system used.

The polyester finish is unaffected when applied over NGR stains. Polyester, with its high solids content, has great filling properties so that the use of a filler might seem to be unnecessary. If a special filler is used on a species of wood that requires a filler—and if no sealer coat is used—the pores of the wood should not be completely filled level and smooth, as in conventional finishing systems. Some anchorage should be left for the polyester film. This type of filling is comparable to slush-filling as used in conventional finishing systems.

It is also said that the polyester finish is differently affected by different species of wood, both as to adhesion and uniformity of finish. If this be true, then it would seem to be advisable to apply the polyester film on a known successful foundation of special filler (if the wood requires filling) and special sealer for the best results in both adhesion and uniformity.

Also, it should be remembered that while dust and flying particles are always a menace to any finish, they are especially so in the polyester finish, because of the longer set-up or gel and curing period required.

Without question, research will continue to improve and stabilize the application of the polyester finish and with more widespread use, more comprehensive information will be gained through actual production experience.

Dr. Wm. Beacham Joins Ionic Electrostatic Corp.

Dr. William (Bill) Beacham, consultant and paint chemist, has joined Ionic Electrostatic Corp. of Garfield, New Jersey.

Dr. Beacham is well known in the finishing field for his technical magazine articles and his work with the manufacturers in this country and abroad. His experience in new finishing methods includes designing spray equipment, formulating finishes and research in ultrasonics and high frequency baking.

For 16 years Mr. Beacham was associated with a well known manufacturer of spray equipment, as Director of Research Laboratories, Chief Chemist and Director of Training.

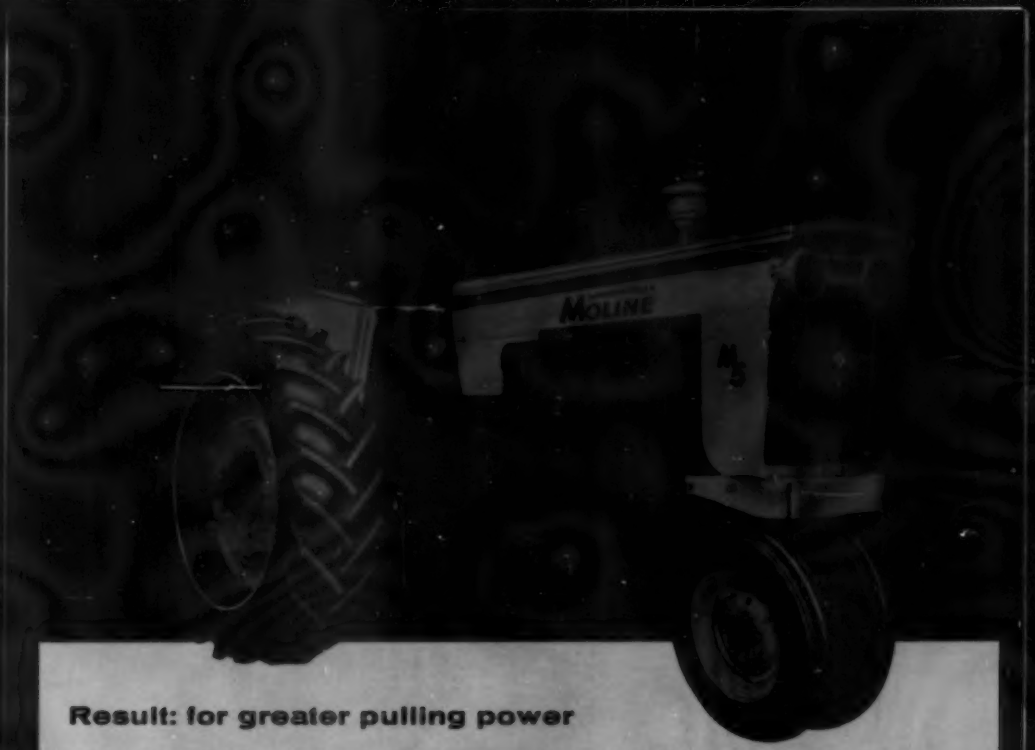
Dr. Beacham received his masters degree in chemistry at Ingraham University, London, England, and his doctorate at Sage Institute, Paris, France.

Mr. John Sedlacsik, Jr., President of Ionic, states that Dr. Beacham, besides testing customers' materials in the laboratory, will make recommendations covering finishing methods to speed up production, etc., and will also prepare a customers' training program for better understanding of all Ionic equipment. He will be permanently stationed at Ionic's Research Laboratory in Garfield, N. J.

Synflex Products Distributor in Connecticut

The Synflex Products Division of Samuel Moore & Co., Mantua, Ohio, announces the appointment of the R. B. Birge Co., 22 Webster Ave., Bridgeport 7, Conn., as its master stocking distributor for the state of Connecticut. The Birge Co. will stock the complete line of Synflex industrial nylon hoses, including Synflex Pressure Hose and Synflex Self Storing Air Hose.

For more data, circle 179 on colored card. ⟶



Result: for greater pulling power

Moline Selects Unique Minnesota Colors

Minneapolis-Moline of Hopkins, Minnesota wanted the extra selling power of the *right* colors for a new tractor line—colors that would sell hard yet still give strong brand identity among the many common reds and greens of

competitive farm tractors. The new Moline finish would also have to be able to withstand the ravages of sun, rain, manure and agricultural chemicals.

The solution? Moline called in their nearby Minnesota Paints representative. He collected data and took it to Minnesota's industrial finish laboratory. There Minnesota research chemists and color experts, in cooperation with Moline's own finish engineers, analyzed and experimented with the problem. Result? They came up with the original rich prairie gold and harmonizing harvest bronze colors you see on all new Moline tractors today. (And Moline tractor sales, incidentally, are doing just fine.)

Minnesota Paints' laboratory facilities and paint chemists are at *your* service, too. Let them analyze a sample of your present finish. They'll find out if it is the most effective, most economical paint formulation available today for your particular application. Call the man from Minnesota near you. He'll handle the whole thing. No obligation.

MINNESOTA PAINTS, INC.

Minneapolis 15, Minnesota

Plants: Minneapolis • Fort Wayne • Atlanta • Dallas

DeVilbiss Tech. Training in Barrie, Ontario Plant

Establishment of a Technical Training Center and Customer Research Laboratory in the Barrie, Ontario, plant of DeVilbiss (Canada) Ltd. has been announced.

The company, a subsidiary of The DeVilbiss Co. in Toledo, Ohio, is now able to conduct most of the tests involved in solving customer finishing problems which previously have been handled at the Toledo plant.

It also will have a training school offering courses in industrial product finishing, maintenance painting, general refinishing, service training, automotive finishing, and the use of portable equipment. The first class is scheduled for September 19.

The new facilities were made possible through recent expansion of the Barrie plant.

Eastman Chemical Products Shifts Sales Personnel

A realignment of the eastern and midwestern regional sales territories has been made by the Chemicals Division of Eastman Chemical Products, Inc., Kingsport, Tennessee.

The eastern territory will now include the east and southeast states. Robert H. Cannon, sales manager, will continue to maintain headquarters in New York City.

The mid-west region will cover the middle west and north central states. Regional offices remain in Skokie, Ill., D. R. Campbell, sales manager.

Sales for the Rocky Mountain region and Pacific Coast will continue to be handled by Wilson & Geo. Meyer Co., through its eight offices.

R. Clay Dubberly is in charge of the Cleveland office, serving northern Ohio. George O. Trabue, formerly in the Cleveland office, will supervise the new sales office to be opened in Buffalo which will handle western New York, western Pennsylvania and southern Ontario areas.

Kenneth E. Cox, formerly sales representative in the St. Louis office, has been appointed district sales manager in the Skokie office. H. L. Francisco has been transferred from the Skokie office to take charge of the St. Louis office.

A new office will be opened in Kansas City to handle part of the area formerly served by the St. Louis office. It will be in charge of R. M. Morrow who is being transferred from Kingsport.

C. P. Echerd, a sales coordinator at Kingsport, has been appointed sales manager in the New York office. He will also direct sales of Eastman dyes in the northeastern area and supervise the laboratory and chemicals distribution center at Lodi, New Jersey.

Ralph R. Shelly, formerly in charge of the Cincinnati office, will be sales coordinator in Kingsport. G. C. DeCroes will assume charge of the Cincinnati office. He will also coordinate sales activities for chemical products of the Texas Eastman Co. division in Longview, Texas.

Phillips Mfg. Co. Expands Its Metal Cleaning Line

Ephraim Werner, President of Phillips Mfg. Co., Inc., 3475 W. Touhy Ave., Chicago 45, Ill., announces the launching of an extensive, expanded sales promotion and marketing program.

According to Mr. Werner, two major factors have contributed to the launching of the new program at this time. They are: 1) Recent completion of expanded manufacturing facilities which more than double the former manufacturing area; 2) The recent design and development of new metal cleaning equipment, as well as product development on existing equipment. With these additions, Phillips Mfg. Co. will have a complete line of metal cleaning facilities.

This new sales promotion and marketing program will be under the supervision and control of Black-Russell-Morris, industrial advertising, public relations and marketing specialists of Newark, N. J.

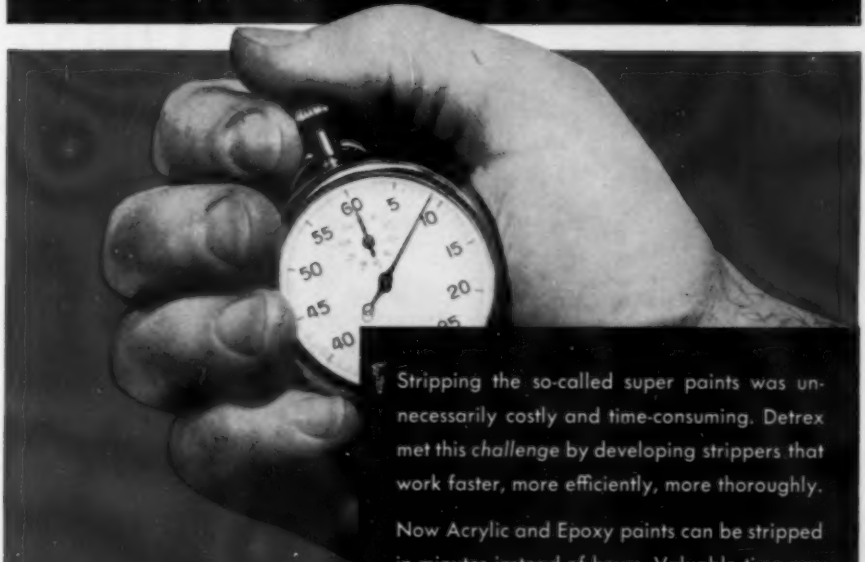
Delavan Mfg. Co. Appoints Two Representatives

Delavan Mfg. Co., West Des Moines, Iowa, announces the appointment of two new representatives.

The D & O Products, Inc., P. O. Box 3107, Wichita, Kansas, will represent Delavan in the state of Kansas and western Missouri. Lin Associates, 76 Strathmore Road, Brighton 46, Mass., will serve as the company's representative in the New England states.

Effective Oct. 1 these representatives will handle Delavan's complete line of industrial nozzles for metal cleaning, metal finishing, air conditioning, flooding, washing, spray drying, airless spray finishing and other industrial nozzle applications.

Now You Can Time Paint Stripping With a Stopwatch



Stripping the so-called super paints was unnecessarily costly and time-consuming. Detrex met this *challenge* by developing strippers that work faster, more efficiently, more thoroughly.

Now Acrylic and Epoxy paints can be stripped in minutes instead of hours. Valuable time can be saved by reprocessing needed parts the same day.

Regardless of your paint stripping method — Detrex can assist you in speeding your operation and reducing over-all costs. Why not talk to a trained Detrex field representative now? They welcome the real "toughies".

SUPER ACRYLIC PAINTS
Fast!

MODIFIED ACRYLIC PAINTS
Fast!

SUPER EPOXY PAINTS
Fast!

DETREX CHEMICAL INDUSTRIES, INC.
Box 301, Dept. IF-660, Detroit 32, Michigan

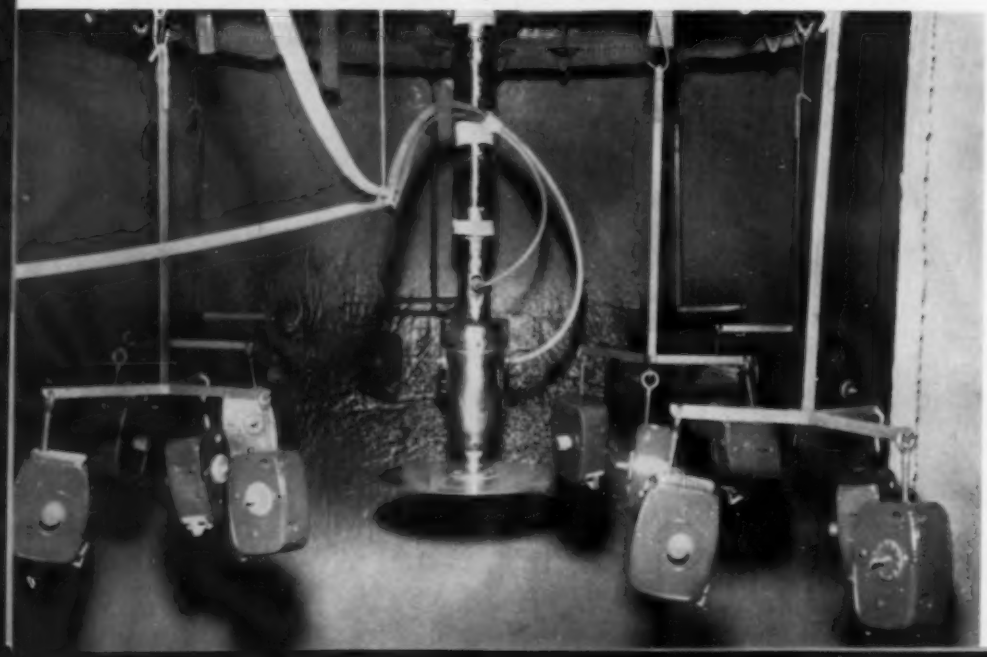
For more data, circle 180 on colored card.

Electrostatic Setup Applies Wrinkle Finish to Camera Parts

KEYSTONE Camera Co., Inc., Boston, Mass., is described as the "world's largest exclusive manufacturer of home movie equipment."

A little over 40 years ago, the company was founded with 12 employees. Today, the 300,000-sq.ft. plant is located on a 17-acre tract a few miles south of the center of

Wrinkle enamel is applied uniformly to Keystone camera cases as the parts loop around the ceiling-mounted No. 2 Process reciprocating disc. Electrostatic spray painting is providing a high quality finish and substantial paint savings in comparison to former hand spraying methods. Photographs, courtesy of Ransburg Electro-Coating Corporation.



Boston. Now it takes more than 1000 employees of professional and skilled experience to meet the demand for Keystone products which are sold in all 50 states and in 65 foreign countries.

Strict quality control through all phases of production is stressed at Keystone. The company's engineers and designers, with new materials and new techniques, have constantly improved not only the interior mechanism of their products but the outside appearance and styling as well.

Signs throughout the 5-story Keystone plant keep hammering away at quality, quality, quality. Employees in all departments are reminded constantly that their job is to make products that give enjoyment to other people. There's a lifetime guarantee on every Keystone product.

After painting, the parts—like these projector bases—go through a bank of infrared lamps where the wrinkle enamel is set up before entering the bake oven.

Steady Rapid Painting; Fewer Rejects; Uniform Coating

The attractive wrinkle finish on Keystone products is both decorative and protective. According to Theodore Role, vice president of manufacturing, quality improvement in the finish of their cameras and projectors—along with increased production demands—were the chief reasons for switching from air hand spray to the No. 2 electrostatic process for painting their products.

With electrostatic spraying, he reports, they improved the quality of their finish by obtaining more uniformity in the thickness of all coatings. Color uniformity is also important because the case and cover of projector, or camera, must match. Rejects, which formerly ran as high as 7% with hand spraying, now run less than one half of 1%.

Automatic electrostatic spray painting has made it easily possible for them to keep up with production requirements without resorting to expensive overtime. There were times in the past when the finishing department was a bottleneck in production.

Facilities for Fast Color Changes

Projectors are painted light tan and brown; golden brown and metallic; metallic silver and ascot gray. Camera colors are light and dark gray; silver gray and dark gray. Color changes may be made six to eight times in a shift; how-

ever an interval of less than five minutes time is required to switch from one color to another.

Formerly, when projector front and rear covers were hand sprayed, the operator lifted the parts out of a box; sprayed them and then hung them on a conveyor line to go to the oven. Now, with the automatic spraying setup, they can turn out more in an hour than what was formerly done in a day. The same is true of camera cases which were formerly painted by hand on a belt conveyor.

Tony Caprio, at right, supervisor of the paint department, and Dominic Panico, the assistant foreman, check the uniformity of the finish on projector covers.

Surface Preparation; Painting; Oven Baking

Under the present arrangement, parts are first degreased, etched and rinsed in a separate department before they enter the finishing department. Parts are then loaded on one of two separate and completely equipped conveyorized paint lines. On each paint line there is a two-loop electrostatic unit with reciprocating disc-type atomizers. The loops are so arranged as to provide adequate flash-off time between spraying and thus permit a maximum build of wrinkle enamel.

Projector covers rotate as the conveyor makes a loop around the ceiling-mounted No. 2 Process reciprocating disc.

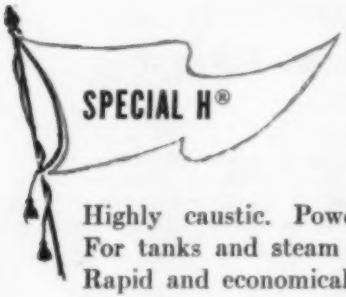
Continuing by overhead conveyor the painted parts move through a gas-fired convection oven wherein the coating is baked to produce the high quality wrinkle finish. Following a conveyorized cool-off cycle, the parts are unloaded and inspected. Those parts requiring gold overspraying over masked areas to highlight the distinctive letter "K" are trucked to a hand painting department, while other parts are trucked to the assembly department.

An executive will never have a feeling of complete well-being without an understanding of behavior—both his own and his associates'.

We've got what you want in paint strippers

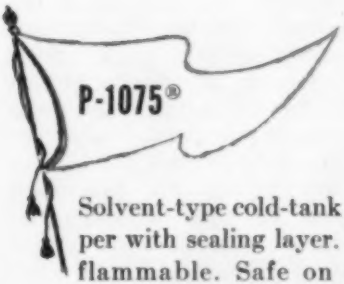
Highly caustic. Powdered. Fast acting. For tank stripping of many modern finishes, including epoxies and acrylics.

Semi-viscous stripper for brush, spray, or flow-on application. Non-flammable. Very mild odor — pleasant to work with. Won't harm metal, wood, or canvas.



Highly caustic. Powdered. For tanks and steam guns. Rapid and economical.

Semi-viscous stripper for brush and spray application. New activator removes many difficult paints. Leaves metal unharmed. Rinses easily, facilitating repainting.



Solvent-type cold-tank stripper with sealing layer. Non-flammable. Safe on most metals. Fast acting. Effective on many finishes, including melamines and epoxies.

For data, or a demonstration, or both—call your Wyandotte representative. *Wyandotte Chemicals Corporation, Wyandotte, Mich. Also Los Nietos, Calif.; and Atlanta, Ga. Offices in principal cities.*

Wyandotte® Chemicals

J. B. FORD DIVISION

The best in chemical products for metal finishing

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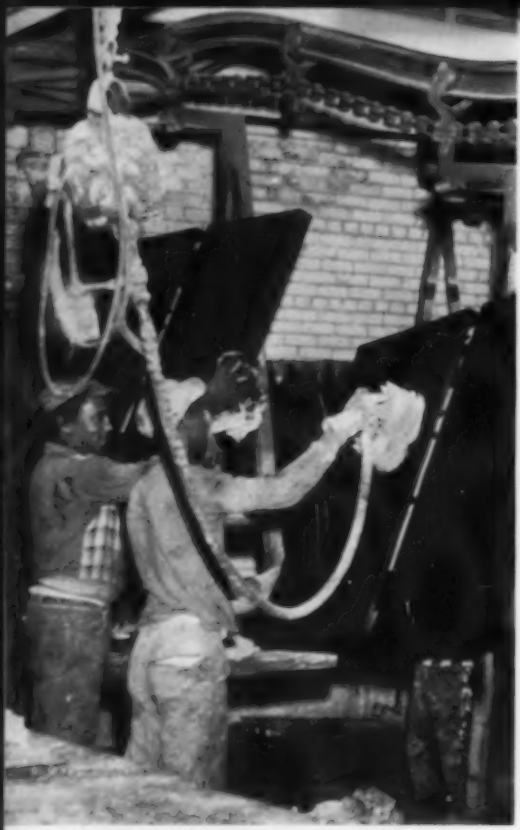

The Use of FILLERS in Wood Finishing

By George A. Conrad

Using a power driven rotary pad to pad in the heavy spread of filler that covers these table tops which are moving along the production line by overhead conveyor.

OF ALL MATERIALS used in wood finishing, filler occupies an unusual position. Of what other product or process can it be said that only the tiniest fraction serves the purpose for which it was made—to be imbedded in the wood pores. What isn't anchored in the wood pores is laboriously wiped off and disposed of. This wastefulness has made many finishers regard filling as a costly, if necessary, evil. The wood fillers they buy must be comparatively low in cost.

The attitude of filler users has been reflected in the thinking of filler manufacturers too. Some firms refuse to handle it. Others will buy from a manufacturer who has an acceptable product and then sell it under their own label, often at a loss. They are practically forced to do this because some wood finishers insist upon buying their entire finishing system from a single source. I believe that it is safe to say that few if any concerns make much money on wood fillers. [*Continued on page 68*]

UNIFLO STAINS

MAC'S UNIFLO STAINS are finely dispersed pigment stains which can be applied by spray or brush to close grained woods such as Poplar, Gum, Maple and Birch.

ADVANTAGES

1. They possess excellent flow out properties and do not require wiping.
2. Give appearance of a wiping stain and impart very good color uniformity to the wood.
3. Air dry in one hour.
4. Can spray chairs and other pieces with hard to reach corners without showing white lines.

Order a 5-gal. can at drum price and convince yourself.

"Eighty-five Years of Service"

The Lawrence-McFadden Co.

Headquarters for Fine Finishes Since 1875

7430 STATE ROAD PHILADELPHIA 36, PA.

For more data, circle 182 on colored card.

Perhaps we should take time out to explain that this discussion is confined to straight fillers the purpose of which is to fill the pores of open-grained woods. Dual-purpose materials, such as combination filler-stains, can lay claim to eliminating one operation, consequently, they are not subjected to quite as much pressure for a competitive price.

What's in Wood Fillers? Why They Weigh so Heavy

Because of the fact that straight wood fillers must be comparatively low priced, many promising new raw materials cannot even be considered—that is if they add a fraction of a cent to the cost of a pound of filler. It also means that very few manufacturers can spare the cost of doing any research on fillers. Since they have some formulas that are acceptable to both customers and the cost department, they prefer to let well enough alone. Perhaps that is why most of the wood fillers of today are almost the same as those of 20 or 30 years ago.

While it is not the purpose of this article to get into the subject of filler formulation, some knowledge of the composition of a typical filler might help the user to better understand how it works. If you pick up a 5-gallon pail of paste wood filler you will be surprised by its weight. That is because it consists of 75% to 85% solids, and the weight per gallon may run between 12 and 16-lbs. The pigment solids of wood fillers usually consists of silica, along with one or two other inerts of the nature of magnesium silicate. These materials are mixed into a heavy paste consistency with a very small amount of vehicle. The vehicle usually consists of an oxidizing resin and a drying oil, such as linseed .

Silica or crushed quartz is a heavy transparent pigment which has never been equalled in its usefulness to settle and pack into minute openings where the interlocking crystals form a compact mass. The other inerts have two uses. Being finer, they fill the space between the coarser particles of silica; and they control the rate of settling when the reduced filler is applied. The oxidizing resin speeds up drying, cements the mass together and protects it against attack by succeeding coats. The oil content gives it the quality of consistency which must be there if it is to pad-in well.

Earth pigments are added to colored fillers because of their permanence and opacity. Colors that are popular include dark oak, walnut, red and brown mahogany, black and white. They are selected both for the purpose of blending with the wood background, and for creating a contrast.

Solvents for Wood Fillers; How to Judge the Mix

Wood fillers are normally delivered to the user as a very heavy paste. Sometimes a customer who fancies ready-to-use products, will insist on having his fillers reduced, at least partially. This is not good practice. It forces the maker to upset his formulation by adding suspending agents which will certainly interfere with depositing the silica in the wood pores. [*To page 70*]

AIR DRY a "Baked Finish" . . .

NEW

SYN * A * LAC

CATALYZED COATING FOR WOODS

A scientifically formulated synthetic for wood finishing that air dries with the speed of lacquer . . . has the hardness, flow, high build and solids of enamel.

A durable film, SYN-A-LAC will not cold check, print, mar or scratch readily . . . is resistant to hot water, alcohol, nail polish and other acids and alkalies . . . will withstand the heat of a burning cigarette for minutes without blistering. A hard blow with a hammer will dent the wood, but the finish will remain intact.

SYN-A-LAC synthetics may be sprayed over wood filler without the use of a sealer if desired; are easy to hand rub and polish. Choice of finishes are available in flat, satin and gloss in clear and colors.

PAINTS SYNTHETICS UNITED LACQUERS ENAMELS

Write for free generous working sample now.

UNITED LACQUER MFG. CORP.

LINDEN, NEW JERSEY

Southern Distributor: Crown Paint, Inc.
985 W. 20th St., Hialeah, Florida

MANUFACTURERS OF FAMOUS TEXTURED "MULTAKOLOR"

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[*Continued from page 68*]

The most popular solvents for reducing fillers are VM&P naphtha and mineral spirits, or mixtures of the two. Most finishers use a blend of the two, varying the proportion to suit conditions. Increasing the percentage of VM&P naphtha will speed up drying, while increasing the ratio of mineral spirits will slow up the drying and also improve the working properties.

Only sufficient filler for three or four hours use should be reduced, and even that should be constantly stirred or agitated. Best practice is to measure out the proper amount of paste, then gradually mull in the required quantity of reducer. It is customary to standardize filler reduction at so many pounds of paste to the gallon of reducer. These standards can be useful once the reduction that works best is known, but the latter can only be determined by trial and error.

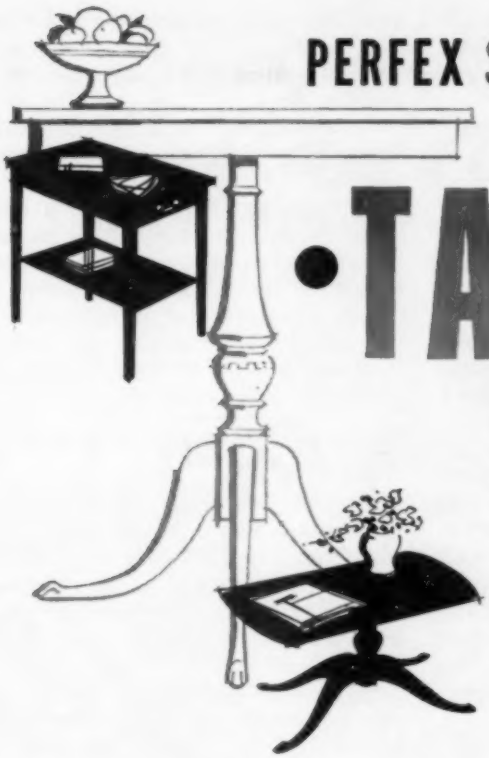
Even different colored fillers by the same manufacturer may have different working qualities. Whites and other light shades seem to be particularly hard to formulate. Old timers used the well-known "pea soup" yardstick as a starting point for filler reduction. The consistency that will work best also depends on the texture of the wood on which it is to be used. Generally, the finer the pore structure, the thinner the mix should be.

Fine textured woods like maple, pine and birch are seldom filled—except for contrast or decorative effect. When this is done, a very thin mix will work best. Medium textured woods like African mahogany, walnut and rosewood can be filled best with a filler of intermediate consistency. At the opposite extreme are the coarse grains found in oak, chestnut and Philippine mahogany which can be filled best by preparing a thick mixture. In fact, many of the deep-pored woods of the latter group cannot be adequately filled in a single operation; they need a double filling operation.

Don't Apply Filler to Bare Wood; Use Size or Washcoat

Since we are concerned primarily with filling, we will assume that the wood has already been stained. However, there are some cases where no stain is required—and there is a point here that I want to make in such cases. It is sometimes the practice to apply filler directly to bare, unsized wood. This is false economy and definitely not good, especially on such a spongy wood as Philippine mahogany. A size solution of 5% to 10%, made of animal glue in warm water, is easily sponged on the bare wood. It will dry very fast. The sizing coat satisfies some of the suction of the wood and raises the grain. When dry, the sized wood should be sanded lightly and carefully dusted clean before filling.

Another method is to apply a washcoat prior to filling. Washcoats usually consist of very thin solutions of shellac or lacquer sealer. Besides their function in satisfying the suction of the wood and making filling easier mechanically, sizes and washcoats have another purpose; they anchor any stray dust in the pores of the wood. This en-



PERFEX SATIN FINISHES FOR •TABLES

No Rubbing Needed!...

Many table manufacturers are using Perfex Satin Finishes to secure that rubbed appearance and waxed feel—without the costly rubbing operation—and while Perfex Satin Finishes are ideally suited to tables, *numerous other pieces of furniture are likewise candidates* for these labor-saving, time-saving finishes.

Perfex was the original "flat" to be made by a new and different process (without the use of stearates or flattening agents) and it is still the "flat" which comes nearest to producing an actual rubbed varnish appearance. It is the Perfect flat finish—quick set, quick dry, waterproof, liquor proof, good build, full smooth body, beautiful rubbed effect, smooth waxed feel. Available in a full range of sheens.

PERFECTION

If you manufacture tables or other furniture and are interested in securing an excellent rubbed finish effect, without a costly rubbing operation, we invite your inquiry.

PAINT AND COLOR COMPANY

INDIANAPOLIS 2, INDIANA

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trapment of stray dust prevents it from being dislodged by the filler and rolling out, leaving some pores unfilled.

How to Put on Filler; Brushing; Spraying

Since the usual practice is to apply filler with a brush, I will describe that procedure first. A fairly stiff brush is best, and it must be of adequate size for the work involved. The brush is dipped deep into well-stirred filler and sufficient material is transferred to insure a very generous coverage. Prime surfaces will fill best while in a flat level position. The accepted practice is to brush first across the grain in both directions; then follow with a final swipe or two with the grain. However, this is mostly a matter of common sense. The brush tips are utilized to encourage the heavy silex to enter the pores, and they break up any air bubbles that might prevent this. It can be done both by patting and prodding the wet filler.

Spraying filler is an economical means of spreading it over large surfaces. It is sprayed from pressure tanks having agitators, using large nozzles and very little atomizing air. For spraying, the mix is somewhat thinner and it contains a larger percentage of mineral spirits. After applying filler by spray *it should still be worked in with a brush for best results.*

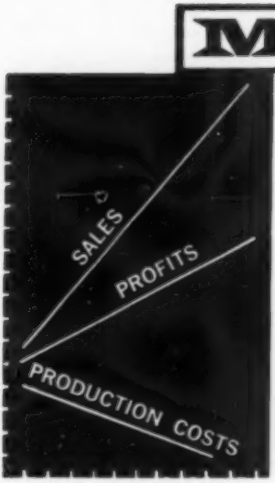
"Well, we got to keep abreast of trends—now, my barber says to increase inventories and stockpile strategics."

When and How to Pad in and Wipe the Filler

Following application, the filler is allowed to remain undisturbed for a short period of time before the padding-in operation begins. During this period, the heavy silica continues to settle on the wood. The time interval to allow before padding in depends upon temperature, solvents and a number of intangibles, so only experience can dictate it. However, the usual practice is to begin padding when the surface of the filler takes on a flat or dull appearance. Since waiting too long will make padding-in and cleaning up very difficult, I would rather err on the side of beginning too soon.

Padding-in is the operation that determines the degree of completeness to which the open wood grain will be filled. It is hard manual work, but there is nothing complicated about it. For hand padding, a suitable pad is made from some coarse (but not too absorbent) substance, such as sisal, sea moss or burlap. However, the pad will not work well until it has become im-

progressive companies use *Randolph* performance-proved hi-quality finishes



Many firms are finding a definite relationship between increasing sales and the use of Randolph coatings. Alert to the products that make greater profits and lower production costs possible, keen-minded industrial management buys Randolph for powerful reasons. Sales-stimulating eye appeal. Practically indestructible wear that keeps a product looking young.

Randolph's reputation is built on experience, research, service. Consult our technical staff if you have any finishing problem. Without any obligation to you.

Randolph PRODUCTS CO.

LACQUERS • ENAMELS • DOPES • THINNERS
CARLSTADT, N. J.

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pregnated with surplus filler, so it is good practice to break it in on some secondary surfaces.

Padding-in is simply the kneading of the plastic filler into the wood, so that the silica content is forced into the open wood grain. This padding-in is best accomplished with an oval or circular motion across the grain, applying plenty of pressure. Padding should be consinued only so long as the pad slides fairly free along the surface of the wood. If continued too long, the cleaning-up will be difficult, and there is also the risk of pulling some filler from the pores.

Manual and Machine Padding in of Filler

Some manual work can be saved and the padding-in can be speeded up by using machines for padding. Rotary, orbital or straight line sanders can be used for padding in filler—if they are run slow enough. They are usually fitted with felt pads for the job of padding. However, they must still be moved in a path across the grain of the wood, and a considerable amount of pressure must be exerted.

"Who's the comedian in your shipping department? I ordered two gals. stripper!"

If the padding-in has been finished soon enough, the cleaning up will not be difficult. It is best started with a clean wad of material that will "slice off" the surplus filler; a typical material is sisal, sea moss or even excelsior. Since the remaining filler is now rapidly drying, speed is important. When the bulk of the surplus filler has been removed, clean cloths can be used for the final careful wiping. Wooden picks are used to clean excess filler from corners and crevices.

Sometimes fillers will become too dry and the cleaning-up becomes difficult. In some cases it is possible to re-wet them slightly with solvent, but this will not always work. In such cases steelwool, sandpaper or even scraping must be resorted to. The use of these latter methods will probably change the color of the wood from those areas that have been normally wiped. The remedy is to re-fill the scraped areas and correct any loss of stain.

When You Need Double or Even Triple Filling

Some woods cannot be adequately filled in a single operation. And if you want a final finish that is perfectly smooth and free from any evidence of pore cavities, those blemishes must be corrected by filling. Despite its apparent wastefulness, filling is the only practical method of preventing pore marks. If open pores are still in evidence after the first filling operation, a second (or even a third) filling is

advised. There are two methods of double filling. The first is to go through the entire cycle twice—filling, padding-in, cleaning-up and drying. Naturally this consumes both time and effort.

The second method is much simpler; it is known as pre-filling. In this procedure the first coat is applied; it is allowed to set up, and then it is padded. However, instead of the surface being cleaned off, a second coat is applied immediately. This second coat then goes through the complete cycle, including cleaning up and drying. It has been the writer's observation that the second (pre-filling) method is the better of the two methods.

Allow Plenty of Drying Time Or Your Finish May Fail

It should not be necessary to say any more about drying filler than this simple statement: "Follow the manufacturer's directions." More furniture has been ruined by insufficient drying of the filler than for any other reason. In the days when all filler was known as "nite-dri", many finishers cheated at the end of the day by starting on the morning's production.

Filler makers have gradually been forced to compound fillers that will be ready for coating in 6, 4, 2 or even in one hour, but they sell them with their fingers crossed, knowing that too many finishers will still cheat. Many times the cheaters get away with it, or the furniture is of a grade where quality standards are not too rigid. However, for high quality work, nothing could be more foolhardy than to risk the entire job by allowing insufficient time for the filler to dry properly. I would let it dry longer than the manufacturer specifies—and be sure that drying conditions are such as to promote proper drying.

Binks Establishes a Customer Demonstration Department

To meet the demand for customer service, brought about by the expansion and diversification of its product line, Binks Mfg. Co., Chicago, has established a Customer Demonstration & Service Department.

Specifically it will perform the following services:

1) Test and evaluate material samples submitted by customers, and make recommendations as to the type of equipment that will best spray the material being evaluated.

2) Conduct material and product application tests on all automatic and electrostatic equipment, as well as on Binks own pump line.

The new department will have at its disposal all of the existing laboratory facilities at Binks. Equipped with the latest spray painting equipment and testing facilities, the laboratory will perform comparative testing that will assist the customer in choosing the right finishing material and equipment for his own particular needs. Finishing problems will be approached from three angles—material, operator, and equipment.

For more information on this new service, write Binks Mfg. Co., 3116 Carroll Ave., Chicago 12, Illinois.

Pearl Essence Information

An attractive and informative brochure of 12 pages, 5x7-in., bound between 2-tone green covers, is offered by Crystal Essence Corp., Bound Brook, N. J. In addition to the new printed information, beautiful color samples are shown, for example, cellulose acetate sheet pigmented with Dekopearl, cellulose nitrate sheets pigmented with pearl, methyl methacrylate button blanks in colors and pigmented with pearl.

COLUMBIA lighting fixtures reflect more sales with Du Pont DULUX® Enamel

- **Bright, clean "Dulux" in high-reflectance white and pastels adds sales appeal to a wide range of lighting fixtures for leading western manufacturer.**
- **Modern finishing techniques speed production, assure tough, uniform coating.**
- **Development of efficient Columbia finishes program is typical result of Du Pont-customer teamwork.**

Lasting good looks are just one sales advantage gleaming "Dulux" Enamel brings to lighting fixtures by Columbia Lighting of Spokane, Wash. (Division of Columbia Electric and Manufacturing Company), with branch plants in Los Angeles, Calif., and Dallas, Texas. This rugged finish also offers high reflectance in white and a wide variety of pastels selected from Du Pont's album of Custom Colors.

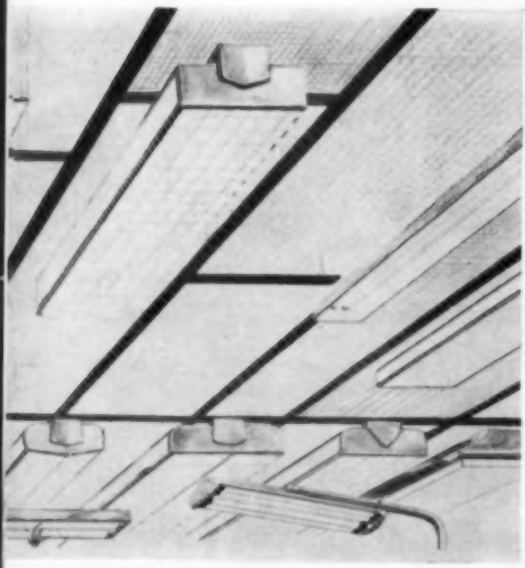
Since 1947, when Columbia first started using "Dulux", Du Pont technical service men have helped maintain production economy and product quality. They've worked with Columbia personnel in applying new gloss and semi-gloss formulations . . . in setting up the paint spray lines . . . in solving production problems. Result: a "taut" finishing program with minimum waste.

Like Columbia, most manufacturers can benefit when experienced Du Pont personnel work with them to assure efficient use of industrial finishes. Here is experience in depth . . . from specialists and from the laboratories of the world's foremost paint-research organization. Perhaps Du Pont can help *you* develop better finishing at lower costs.

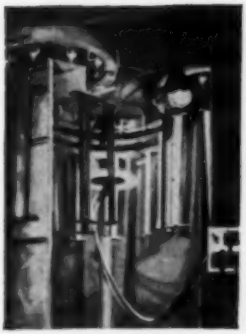
Write: E. I. du Pont de Nemours & Co. (Inc.), 2498 Nemours Bldg., Wilmington 98, Del.

Du Pont Finishes Service Package— **FORMULATION, APPLICATION,**

For more data, circl



PASTEL SHADES of sparkling "Dulux" Enamel add a new color dimension to the Columbia line of luminous ceiling and surface lighting fixtures. Here, discussing these colors are (L to R) John Morahan, Du Pont salesman, Walter Toly, Columbia's president, Ole Gravbrot, purchasing agent, Don Merillat, Du Pont technical representative, and Ed Caferro, vice president in charge of engineering and special projects.



ELECTROSTATIC FINISHING assures a uniform coating of durable "Dulux". Here, whirling disks fling negatively charged paint spray into positively charged metal louvers. There's little or no overspray.

STEAM SPRAY (above) is final finishing operation before fixture parts enter bake oven. A Du Pont development, the steam spray gives maximum coverage with one pass of the spray gun. Note steam "bleeding" from gun not in use, preventing moisture collecting in paint.

BRIGHTNESS TEST (right) shows high reflectance of "Dulux" Enamel. Ron Kimm of the Columbia staff takes reading of illuminated louver on Spectra Brightness Spot Meter.

NEW TOTE TANKS make storage of "Dulux" more convenient for Columbia, reduce handling costs, offer bulk-shipment price advantage and conserve space. Here (L to R) Don Filibeck, painting foreman, and Roy Cornwell, plant superintendent, check viscosity of "Dulux" Enamel.

DU PONT
REG. U.S. PAT. OFF.

Better Things for Better Living . . . through Chemistry

FOLLOW-THROUGH—*Sets Today's Production Pace*

186 on colored card.

EDITORIALS

How Is New Material Offered by Your Supplier?

★ When a paint company sells finishing material to a customer or submits a sample of a new coating material, exactly how is the finish presented? The performance of a product finishing material is generally not guaranteed because the paint company has no control over its application conditions. However, paint companies generally stand behind their products.

A finish may be presented with various attitudes by the paint company. Examples are:

1) This material has been proved in the field for many years. We know it works.

2) Exhaustive tests, as well as theoretical considerations, make us sure this enamel will do the job.

3) We have high hopes for this material and would like for you to test it, as you know your requirements better than we do.

4) This coating material is an intelligent guess as to what you want. You wanted it immediately so we haven't had time for testing.

5) This type of paint is widely used by your industry and we see no need for exhaustive tests.

6) We think this material will do what you want, but we can't afford to do a great deal of testing because of the small volume involved.

7) This finish doesn't stand up, but neither does the finish you are now using—and ours is cheaper.

Any one of these attitudes, as well as any one of many others, could be what the paint company is saying when it sends you a new material. The attitude in each case might be justified, depending on the type of customer, the relationship between paint company and customer, and other circumstances. Difficulty arises when the customer does not realize how the paint company is presenting the finish, and merely presumes there is no doubt that it will be entirely satisfactory. The paint company may not be saying this at all; it should make its position clear. The customer, for his part, should know what that position is.—*Edward Green.*

★ *Guest editorials . . . . Many readers can write an excellent editorial—two or three paragraphs that present a timely suggestion or valuable idea which will stimulate thought on a live subject. The Editor welcomes guest editorials and pays for those used.*

Dry Spray Booth Cleanliness; Safety

If you operate a dry spray booth it may be well to investigate the advisability of placing disposable filters in the back wall of the booth. These filters arrest overspray and hold the paint particles, thus preventing them from reaching the exhaust stack.

Overspray that contacts the exhaust fan and stack is a fire hazard and an added maintenance cost; and the paint mist that is blown out of

Entrance of the two 900 foot Burdett ovens in the Chrysler Plant, showing the continuous line of Burdett 10-L Burners along each side.

BURDETT FINISHING SYSTEMS do the JOB!

Chrysler ("America's Best Built Automobile") is a quality car throughout, and its good looks must be far more than skin deep. Its brilliant finish must *endure*. That's why Chrysler uses the Burdett Finishing System. Burdett Radiant Heat actually "welds" the finish to the metal; it's there to stay, and what's more the Burdett 10-L Radiant Heat Burners save 30% to 70% in heat processing costs, compared with conventional methods. Operation temperature at refractory maintained at approximately 2300 F. with only a radiant glow and no flames discernible.

Whether you need a complete finishing system, an addition to your present layout or the renovating of your old system, Burdett engineers can help you. Write today.

BURDETT

MANUFACTURING COMPANY 4920 SOUTH MONITOR AVENUE CHICAGO 38, ILLINOIS

COMPLETE FINISHING SYSTEMS FEATURING RADIANT HEAT COMBUSTION

For more data, circle 187 on colored card.

the stack may be picked up by the wind and deposited on surrounding property, causing damage and expense.

Installation of filters is simple. A frame is fitted to the back wall of the booth; then the filters are snapped into place in the frame. When filters become loaded with overspray they are unsnapped, disposed of, and clean filters are inserted.

Cleanliness is the prime ingredient of an efficient operation and a quality finish. If the side walls of the booth are protected from overspray with a peelable coating that is fireproof, and if the back wall is fitted with air filters, the fire hazard will be less and maintenance work will be reduced to a minimum.

Yes, an Unsafe Oven Can Kill and Destroy

Is your oven safe? All ovens, and especially ovens in which paint coatings are baked or cured represent a potential danger—not only as a fire hazard but there is danger of an explosion which could cause injury or even death to plant workers. It matters little whether the operation is exceedingly small, with perhaps only one batch type oven, or a large plant with conveyorized ovens; the same causes and results of an explosion exist.

Oven explosions can be attributed to two causes: 1) Excessive concentration of solvent vapors, or 2) a gas or oil leak. Correct oven design, with a proper exhaust and a warning signal system with automatic shut-down facilities, could be the means of saving lives or injury to employees and property damage, not to mention loss in production.

Planned maintenance should remove some of the dangers through proper upkeep of the equipment. However, nothing can replace safety devices and automatic shutdown equipment, coupled with a forced delayed starting of the oven until all vapor or gas concentrations have disappeared.

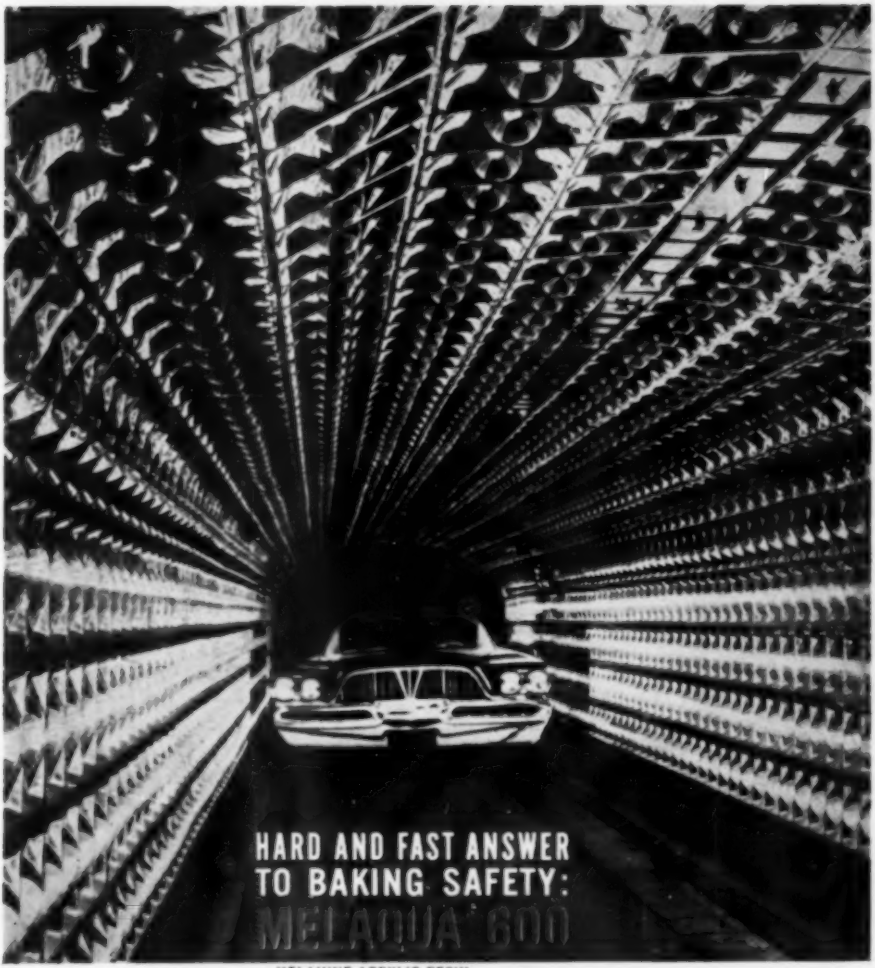
There is an established safety code for every type of oven, regardless of its source of heat. It may be wise to have a reputable heating engineer check your oven for performance and especially for safety. Remember this: An oven that performs badly will produce a lot of rejects, but an oven that is not safe nor protected against explosion and fire may cause death, injury and property loss.

Last August a long paint baking oven in a Texas plant exploded. Three men, including the plant superintendent, were killed and 12 others were sent to hospitals. The blast ripped through a long conveyorized oven, broke gas lines and set the gas on fire. The plant manager said the explosion apparently occurred when accumulated gas in the oven was set off by an automatic pilot light.

Ted Krauth to Sell Dry Clime Infrared Ovens in Omaha

Ted Krauth of the Tri-States Spray Equipment Co., 1118 Farnam, Omaha, Nebr., has been appointed factory representative for the driQuik line of ceramic-type electric infrared industrial drying ovens. The ovens are manufactured by the Dry Clime Lamp Corp., Greensburg, Indiana.

In addition to driQuik infrared ovens, the Tri-States Spray Equipment Co. handles a full line of finishing equipment and offers complete engineering and installation service.



MELAMINE-ACRYLIC RESIN

High gloss . . . hard finish . . . resistance to weather and heat. These qualities once were associated with solvent-based enamels only. But, with organic solvents came the danger of fire. American Cyanamid Company solved this problem with water-soluble Melaqua 600, and the finishing room is now as safe as anywhere else. Melaqua 600 is the first of a wholly-new family of water-dispersed thermosetting industrial coating resins for top coats and primers. It makes an ideal vehicle for industrial coatings, auto accessories, office and photographic equipment, and stove hardware. Write today for full information.

*Trademark

CYANAMID **AMERICAN CYANAMID COMPANY • PLASTICS AND RESINS DIVISION**

SOUTH CHERRY STREET, WALLINGFORD, CONN. Offices in: BOSTON • CHARLOTTE • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DETROIT
LOS ANGELES • MINNEAPOLIS • OAKLAND • PHILADELPHIA • ST. LOUIS • SEATTLE • In Canada: CYANAMID OF CANADA LIMITED, MONTREAL • TORONTO

For more data, circle 188 on colored card.

MOCO Teamwork and Building Block Design Combine to Solve Important Curing Problem!

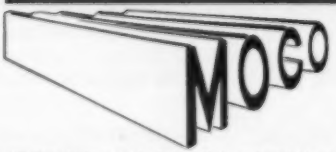
Urgently needing 25% more oven curing capacity for the latest in synthetic rubber products vital to critical Government projects, the Lord Manufacturing Company called on MOCO for a fast, economical solution.

Lord's original equipment had been designed by MOCO with future expansion in mind. Now, MOCO engineers had only to add three walls to the right hand wall of the existing oven, and install heating, ventilating and control equipment.

To meet the target date only a few weeks away, MOCO enlisted the aid of suppliers such as Brown Instrument Division of Minneapolis-Honeywell, Aerofin Corporation, Partlow Corporation, Automatic Switch Company and others. This joint effort, coupled with the versatile design of the MOCO oven, put a brand new piece of curing equipment in the Lord plant—on time, and at lowest cost!

MOCO problem-solvers will welcome the opportunity to team their talents with yours. Write for the name of our representative nearest you.

MICHIGAN OVEN COMPANY



FINISHING EQUIPMENT DEPT.
423 BRAINARD
DETROIT 1, MICHIGAN

Washing Machine • Bonderizing Units • Dry-off Ovens • Dip Tanks • Flo-coaters • Finishing Ovens • Conveyors

61-3

For more data, circle 189 on colored card.

JOB REPORT

PRODUCT:

Synthetic elastomers vital to government projects—and regular productive parts such as instrument mounts, engine mounts, components, etc.

PROCESS:

Load rack type trucks in curing oven. Low temperature cure—program controlled 250° F. to 320° F. High temperature cure—program controlled 250° F. to 480° F. Time in oven—Programed, up to several or more days.

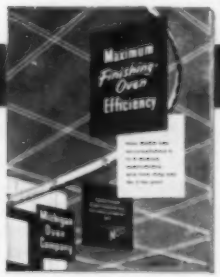
PROBLEM:

Increase curing unit capacity by 25% to keep pace with accelerated demand for government classified product. Fixed operational dead line. Low cost imperative.

SOLUTION:

Addition of one new curing oven to existing three ovens, using MOCO Building Block design, with steam heat for low temperature range, supplemented by electric for high temperature range.

FREE—Send for your MOCO bulletin showing typical finishing system applications and specifications, no cost or obligation.



Automatic Fire Fighter Leaves No Damage

★ How are you fixed for fire-fighting equipment? Like fire insurance, you hope it will never have to be used but, when you least expect it, a fire occurs and then fire-fighting facilities that really work are needed quickly. Where paint materials and solvents are stored, mixed and used, the danger of fire is always present. Let's emphasize that "always."

Sometimes it seems that fires cannot be prevented from starting, but automatic fire-fighting equipment, properly installed and always in working order, will prevent continued burning and excessive loss. An automatic carbon dioxide system—generally referred to as a CO^2 system—offers a dependable defense against a small fire becoming a large fire.

The heat from a small fire sets off actuators which trip the releasing mechanism. This action discharges the contents of pressure cylinders and allows the carbon dioxide gas to replace oxygen in the air surrounding the danger area—the dip tank, flow coater, roller coater, spray booth or other equipment, or the paint supply and mixing room. With the supply of oxygen cut off, the fire is quickly and effectively smothered.

And, what is very important to everyone concerned, the CO^2 gas does no damage to the room, the equipment or the products that may be in that area.—*E. F.*

Durability Important in Furniture Finishes

★ One of the most important objectives of any finishing material manufacturer is that of finish durability. Every furniture manufacturer would like to be able to say that the finish he is putting on will serve for the lifetime of the product—not just for one year or two years—but last the life of the product under ordinary usage. Where furniture is subjected to extraordinary abuse, of course, the finish is not expected to stand up long.

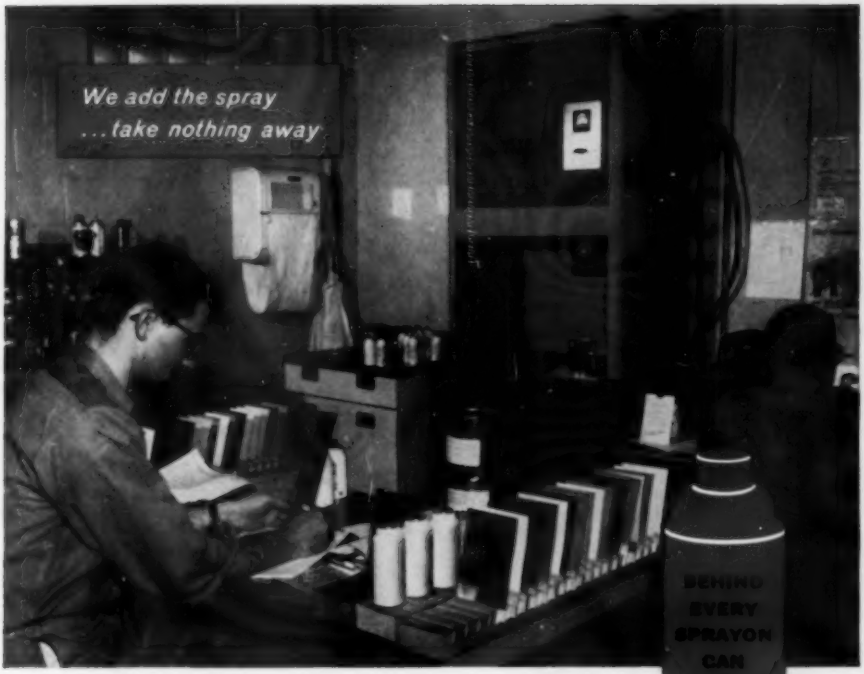
Finishing material manufacturers today are very conscientious. All of them are putting a lot of money into research, in an effort to develop more durable products. For example, the best lacquers were an improvement over the old varnishes. There has been further improvement in the lacquers with acrylic and butyrate which are being widely used today. The urea varnishes and now the polyester finishes, which are unusually durable, are further evidence of the efforts of the finishing material manufacturers to give us a more durable product.

More and more furniture manufacturers are setting up research and testing laboratories of their own. Not only are these labs used to check the quality of the material coming in, but there is also a lot of research going on in the labs in an effort to develop more beautiful and more durable finishes. Furniture manufacturers are thus cooperating with the finishing material manufacturers in a mutual effort toward improving the finishing materials.

Through the ingenuity of both the manufacturer and user of the finishing material, we are going to see further improvement in product quality in the future.—*Horace W. Chester.*

Circo Launches Ultrasonic "White Room" Cleaner Line

Four new ultrasonic cleaning systems designed specifically for industrial "white rooms," laboratories, hospital, surgical, dental and other critical work areas where absolute cleanliness is a must, have been introduced by Circo Corp., 51 Terminal Ave., Clark, New Jersey.



Self-spray paint troubles stop here

This is part of Sprayon's quality-control laboratory, where six full-time chemists and paint technicians make sure that your aerosol finishes—custom-loaded by Sprayon—never vary in color or performance. Before production begins, even on a routine re-order, prototype cans are made up in the laboratory and given an accelerated aging test equal to a year of shelf life. Test panels are then sprayed and the film is analyzed by precision instruments. Gloss and other characteristics are checked. Color is double-checked under a MacBeth light, the accepted standard of the paint industry. The spray pattern and the mechanical efficiency of the container are checked. All test data, materials and samples are dated, coded and filed for a year for later reference. Sprayon quality control is one reason why Sprayon has handled the greatest possible variety of contract-loading assignments for many of the nation's largest manufacturers—year after year after year. Get the full Sprayon story today.

SPRAYON PRODUCTS, INC. 2065 E. 65th St., Cleveland 3, Ohio

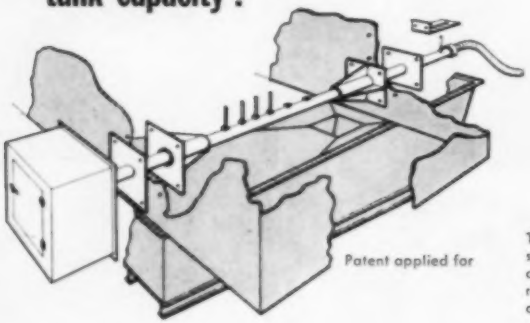
For more data, circle 176 on colored card.

AMAZING NEW IMPROVED FLOW COATING SYSTEM!

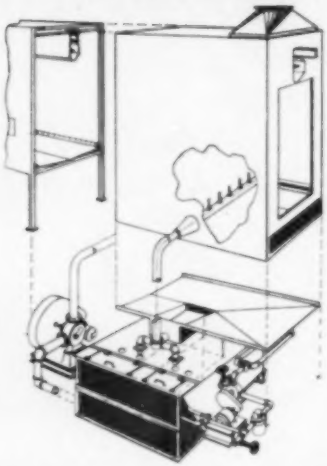
Uses 70% to 90% fewer nozzles!

Less solvent loss!

Reduces pump and storage tank capacity!



Patent applied for



This exploded view of a typical Flow Coater shows the simple application of a Koch* Oscicator to eliminate the complicated manifold, riser, nozzle, pumping, and piping system used on old type flow coaters.

* Trademark

The heart of the Koch Oscicator system is contained in the small control cabinet at the left. Paint manifold is drilled and tapped on 2" centers so that an exact nozzle pattern may be selected and the balance of the holes plugged.

IMPROVED FLOW COATING with these new features ...

smaller paint reservoir

smaller circulating pumps

less solvent loss

quick conversion

The Koch Oscicator combines a two plane operation to develop a painting pattern with an absolute minimum of paint circulation and atomization. This two plane operation is adjustable to accommodate a complexity or variety of work. Newly installed systems use shorter tunnels, need less floor area. You get better quality flow coating with less paint, less solvent, smaller pumps.

NO EXPENSIVE CHANGEOVER

No need to make an expensive plant shut down. Your flow coat enclosure remains just as it is and your maintenance crew makes the change over a week end by installing a Koch Conversion Unit. **Phone, wire, or write for expert Koch engineering assistance. No obligation.**

GEORGE KOCH SONS, INC.
Evansville 4, Indiana

For more data, circle 191 on colored card.

COVERAGE?

Now, while this beach queen is a good example of spotty coverage in strategic areas only, no manufacturer would want such irregular and partial coverage in his industrial finishes. Nor would we give it to him. Our R/V "Real Value" products are calculated to produce *full* coverage of the depth, lustre, and character *you* require. Give us a chance to cover your requirements . . .

ROCKFORD VARNISH

RV

ROCKFORD, ILLINOIS

MANUFACTURERS OF
PROTECTIVE AND DECORATIVE FINISHES

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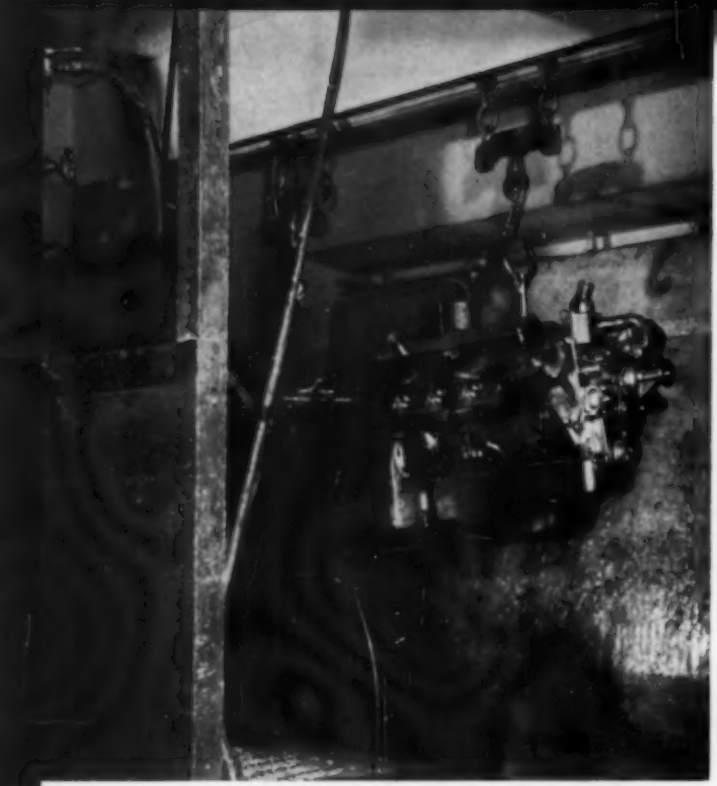


This operator using airless spray, paints an engine as it passes through the water-wash spray booth. Note that only a single material hose leads to the spray gun.

Photographs, courtesy of Gray Company, Inc.

Painting Engines For Chrysler Automobiles

AT CHRYSLER Corporation's Mound Road engine plant, Detroit, Mich., the setup for painting automobile engines includes several features of interest. Some engines are given an all-over spray coat of aluminum; others are painted fire-power red. Both of these coating materials are air-drying alkyd-resin-base enamels. They serve the triple function of affording protection, decoration and identification.

Facilities for painting the engines include two reverse position water-wash spray booths, both served by an overhead monorail conveyor which carries the engines to

and from the sprayers and supports the engines in conveniently suspended position for painting while they move at a steady pace through the spray booths. With the spray booths in line, one following the other, but in reverse position, the work of spray painting each engine is equally divided between two operators. In one booth the operator sprays one side and the under side; in the next booth the second operator sprays the top and other side.

Paint is Supplied Through a Continuous Circulating System

Prepared paint is conveyed to the sprayers through a continuous circulating system. When spraying is stopped for any appreciable length of time, such as between shifts, over Sunday or holidays, the operator can, by means of a valve, reduce the pressure in the system to 10-lbs., which causes the paint to continue to circulate between the guns and the supply drum from which is is pumped. When production is ready to be resumed, it requires only about ten seconds to build up the pressure from the low stand-by pressure to an operating pressure of 1000-lbs. to 1200-lbs.

An airless system of power-pressure spraying the paint is used. A safe high pressure is built up by a reciprocating pump, supported by and working from the special head on each paint drum, to give a forceful spray, from the spray gun, of finely atomized paint or enamel. Its chief merits, according to the manufacturer, are that no compressed air is used for atomizing the paint, therefore there is no rebound or bounce-back from the surface being painted and very little if any overspray occurs when the gun is skillfully directed toward the work.

Pumping Paint Directly From Shipping Drums

The paint is pumped directly from the drum through filters into a pipe circulating system. In the spray booths, pipe outlets are fitted

Two reverse position water-wash spray booths. A painted engine at right is leaving the booth.

with snap-on couplings to facilitate fast color changes and to flush out the hose lines and guns with solvent. Stainless steel wire braid hose, with a solvent-resisting plastic liner, is used between the pipe outlet and the gun.

In this area there are facilities for preparing the paint, such as moving drums into and out of the space, changing and adjusting drum heads, testing the paint for viscosity, thinning paint if necessary, adjusting the paint stirrers and power pumps, changing connections, turning valves, etc. Paint is pumped directly from drums, through piping, to the spray operators.

Both the aluminum paint and the fire power red enamel are constantly agitated in their respective drums, by means of a propeller-type agitator which is driven by compressed air. The aluminum paint is used at a viscosity of 15 seconds at 77° F., as measured in a No. 4 Ford cup; and the red enamel is used at 19 seconds viscosity at 77° F.

For pumping aluminum paint, a pressure of 50-lbs. per square inch is used on the double-acting reciprocating pump to produce an operating fluid (paint) pressure of 1000-lbs. at the spray gun. For the red enamel, 60-psi. of air is used on the pump to produce an operating fluid pressure of 1200-lbs.

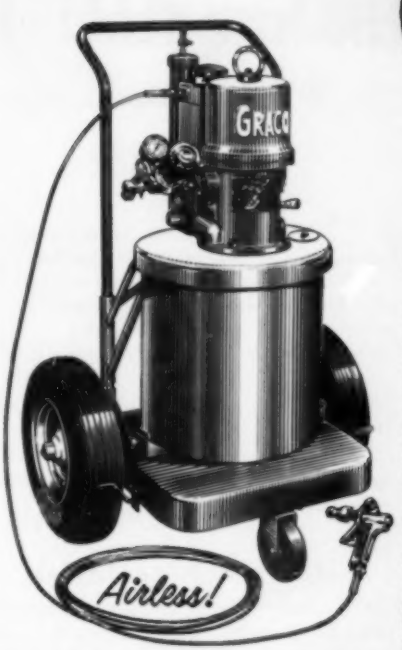
The present rate of spray painting is 150 engines per hour or 2½ engines per minute. Formerly, at an average production rate of 1200 engines per day, paint consumption was 159 gallons or 7½ engines per gallon. With the present setup, paint consumption has been reduced to 56 gallons per day, or 21.4 engines per gallon. The figures are based on the use of aluminum paint. The red enamel requires more material to cover the same area. A dry film thickness of 3-mils is obtained with the aluminum paint and a slightly heavier film with red enamel. Coatings are dry to touch in about five minutes, and within 30 minutes the painted engines are dry enough to handle in the assembly department.

Binks Exhibit at Metal Show

Among the products shown at the National Metal Show at Philadelphia by Binks Mfg. Co., one was a Formulator unit recently released by the company's research and development subsidiary in Boulder, Colorado.

Called the Formulator "B," it precisely meters two fluids in any ratio and pumps them to a Turbulator spray gun. In the gun, the materials are mixed a split second before being sprayed. Materials with reaction times as low as four seconds have been successfully sprayed.

Other products shown by Binks included automatic spray finishing equipment, compressors, airless spray painting units, pumps, spray booths, and the Wren air-brush.



GRACO

Hydra-Spray cuts finishing costs four ways

Eliminates virtually all overspray. Doing away with atomizing air cuts overspray to the absolute minimum. Requires less masking . . . reduces clean-up time . . . cuts labor and material costs by 30 to 70%.

Gives better coverage. Sprays edge surfaces without paint being blown off by atomizing air. Applies heavier film per pass of gun . . . makes it possible to one-coat many two-coat jobs.

Eliminates bounce-back. Uses no air to spray the paint, thus eliminating major cause of bounce-back. Gives complete coverage . . . even when spraying into drums or inside box corners.

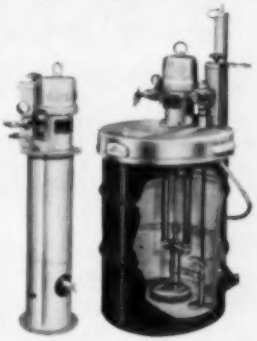
Simplifies equipment requirements. Needs no heaters . . . no electrical connections. Eliminates the atomizing air hose. Requires smaller air compressor; minimizes the need for exhaust equipment.

There's a GRACO Hydra-Spray model for any finishing need

In addition to the portable 10-gal. unit shown above, new Graco Hydra-Spray models are also available as sealed standpipe units that provide the advantages of a central-mix supply, and as 55-gal. units that pump direct from full-open 55-gal. shipping drums.

Hydra-Stand (near right) maintains central control over material viscosity at all spray outlets. Connected into an existing circulating system, it keeps material in constant circulation . . . draws paint into the Hydra-Stand only as it's used . . . offers all the other time and money saving Hydra-Spray advantages outlined above.

55-Gallon Hydra-Spray provides high-speed application right at your assembly line or spray area . . . even with large, awkward pieces too big for your spray booth. Has dual outlet manifold for two-gun use . . . air-operated elevator for quick drum changes.



FOR DETAILS, see Graco section in Sweet's Plant Engineering File . . . or call your nearest Graco Supplier. Today!

GRACO

ENGINEERS AND MANUFACTURERS

GRAY COMPANY, INC.

103 Graco Square
Minneapolis 13, Minnesota

BRANCH OFFICES IN ALL PRINCIPAL CITIES

For more data, circle 174 on colored card.

LETTERS from READERS

Want Article on Finishing Wrought Iron Furniture

Will you please forward to the attention of the writer about a dozen reprints of the article, "Finishing Aluminum and Wrought Iron Furniture," which appeared in August issue, pages 24-30? If there is any charge for these reprints, please advise the amount and make the bill out to the name and address on the above letterhead.—*Interchem at L. A.*

We did not make reprints of this article, but we are sending you 12 sets of tear sheets of the article.—*Editor.*

Viscosity Article Wanted

We missed the February 1960 issue of *Industrial Finishing* and would like to obtain several copies of the article on, "Viscosity Measurement" and the conversion chart, which were printed in that issue.—*B. M. Co.*

We have sent you six copies of the reprint.—*Editor.*

Lacquer Stick to Brass

We are interested in suggestions for treatment of brass to enhance adhesion of lacquers, as outlined in a Q. & A. published in the July issue of *Industrial Finishing*, pages 91-93. Would like to have several of the latest chemical pretreatment formulas for cleaning and adhesion.

Our problem is to obtain adequate adhesion of clear butyrate and vinyl-acrylic coatings on polished brass. These are air dried coatings.—*W. P.*

In a letter we are sending you additional data supplied by one of our editors whose answers appeared with the question published in July issue. —*Editor.*

Gold Finish on Metal

Can you supply us with information, or a source of information, on how to obtain a brass gold finish on metals and plastics, using a silver nitrate solution?—*M. R. & D.*

In a letter we are naming a few concerns which, we believe, can supply what you need.—*Editor.*

Coat by Dipping Hot Metal Into Plastic Powders

It has come to our attention that there is a new system of varnishing with thermoplastic powders, which protects surfaces uniformly, even on acute angles.

We understand that the system consists of heating the object to be varnished electronically to 482° F. or more and dipping it into a tank of pulverized thermoplastic powder.

In case you happen to know anything about this system, would you

please help us to contact the manufacturer of the powder, so that we may obtain samples and literature?

Our associates, who are interested in this matter, are manufacturers of precision instruments.—*F. A., Rome, Italy.*

We refer you to Polymer Process Industries, Reading, Penna.—*Editor.*

Air Hose Cost High?

Please send me, if available, a reprint or tear sheet of the article entitled, "Air Hose Bill Too High? Here's the Remedy," by K. MacKenzie, which appears in February issue, pages 102-104.—*O. P. W.*

Tear sheets sent.—*Editor.*

"No need to go through all this, Findley —I want to see you!"

Putty Sticks Wanted

In connection with the development of a prefinished paneling product, we are in need of a supplier of putty sticks. Would you please send us a list of manufacturers of putty sticks, if you have such a list available?—*S. Redwood Co. (Calif.).*

Try Putty Stik, Inc., 1218 E. Cherry St., Seattle 22, Wash.—*Editor.*

Tumble Coating Machines

Reference is made to an article entitled, "Tumbling—A method of Coating Small Pieces," pages 101 and 102 of the July 1960 issue.

Please send the names and addresses of suppliers for the tumbling machine referred to in this article. We coat parts as small as 1½-mm and up to 19-mm in size. We are particularly interested in a tumbling machine like that described in the article, to see if it might be adapted for our manufacture.—*S. P. I.*

In a letter we are sending you names and addresses of several suppliers of tumbling barrels and dip-whirl coating machines.—*Editor.*

Finish for Imported Woods

Would you have information as to the relative finishing properties of Cuangare (Dialyanthera Spp.) and Banak (Virola Spp.).—*H. H. Corp.*

In a letter we are sending you two data sheets on the two species of wood mentioned in your inquiry. We do not have information on suitable finishing systems for these woods. Much would depend upon the end use of the products you want to finish, that is to say, if the finish is to be decorative or protective.

Judging from the information obtained, a finish suitable for mahogany or perhaps Philippine mahogany

is indicated. We suggest that you contact any supplier of industrial finishing materials who advertises in *Industrial Finishing*. The company's service representative and laboratory will be able to advise you on a suitable system for the products made from these species of wood.—*P. C. Bardin.*

"I checked it out with your wife first, sir —and she likes it!"

Drum Enamel Formula

We are in need of a formulation suitable for drum enamel, black. Must be low in price.—*C. C.*

Sorry; we do not supply formulas for any coating materials.—*Editor.*

Hand Roller Wanted

We are interested in obtaining a good hand roller which could apply a 2-tone over a ⅛-in. raised panel, approximately 5-in. wide and 30-in. long. We plan to apply the 2-tone color over an air-dried high-gloss synthetic enamel. In addition to the roller, which is required, we would appreciate any information that you have available concerning the type of paint which should be used for the two-toning operation.—*X. Y. Z.*

In a letter we are sending you the names and addresses of suppliers of rollers. Coating materials can probably be supplied by your regular supplier of finishing materials.—*Editor.*

Measures Thickness of Wet Film of Paint

On pages 70 and 71 of the Aug. 1960 issue, there is an article by C. R. Brown which described a tool for measuring wet film thickness. A sketch of this tool is shown on page 71.

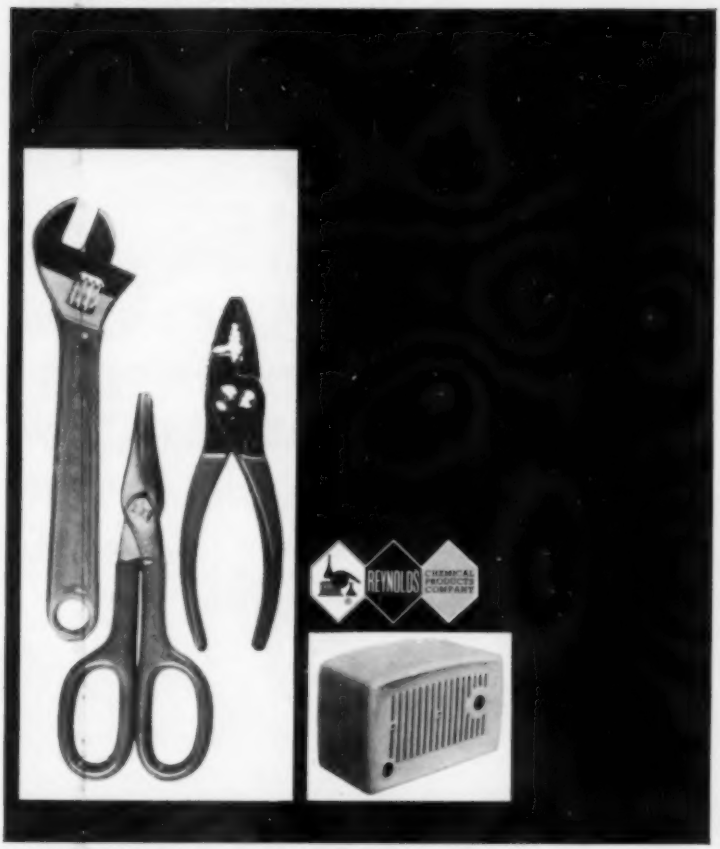
We have been looking for a tool like this for some time and we would greatly appreciate it if you could forward the name and address of the manufacturer of this tool to us.—*A. S. W.*

We understand that this gauge is a product of Nordson Corp., 55 Jackson St., Amherst, Ohio.—*Editor.*

Clear Burnproof Finish for Wood Surfaces

On page 118, in March 1960 issue, we are interested in a question asked by a writer initialed "C.E.C.," in regard to a water clear, burnproof, marproof finish. We believe we have perfected the closest thing to this which we know of, and would like to be able to contact "C.E.C." for the purpose of submitting samples and demonstrating our system. We would

WHETHER YOU DIP IT OR SPRAY IT... YOU'LL FIND A LOT OF GOOD REASONS FOR FINISHING YOUR JOB WITH REYNOSOL



Reliability can combine with economy. Consistency of color or gloss need not be sacrificed to durability or to constant resistance factors. Reynosol has proved this. This plastisol coating has also proved that quality can be achieved independently of higher costs or production delays. Whatever you coat or finish...and however you finish it...don't you think you should talk with the people at Reynolds Chemical?

Division of Stubnitz Greene Corp., Whitmore Lake, Michigan • Phone Hickory 9-9361

For more data, circle 193 on colored card.

like to learn if "C.E.C." is still interested and if not, then what he has decided on.—*Weyerhaeuser Co., Roddis Div'n., Marshfield, Wisconsin.*

This inquiry came from C. E. Curtis, an instructor at Shop 71, Naval Shipyard, Long Beach 2, Calif.—*Ed.*

Who Supplies "Chem Gard"?

Can you tell us anything about the manufacture of materials and system employed in the finish called "Chem Gard"?—*Hardwood Products.*

It's a product of Grand Rapids Varnish Co., Grand Rapids, Mich.

Want to Try "E-Lim"

In August 1960 issue, page 93, Industrial Finishing Products, Inc., is mentioned as the manufacturer of "E-Lim," an item to eliminate "fish eyes" in a finish used to refinish surfaces that have traces of silicone. Can you please send us the address of this company?—*F. & C.*

It is 465 Logan St., Brooklyn 8, New York.—*Editor.*

"Feels good to be back in harness again!"

Liquid Neoprene Paint

Please tell us the name of the manufacturer of the liquid Neoprene paint mentioned in Random Comment in Sept. issue, page 4.—*R. Mfg. Co.*

It is Adhesive Products Corp., 1660 Boone Ave., New York 60, N. Y.—*Editor.*

Color Matching Article

May we please have tear sheets of the article, "Color Matching Science, Art and Practicality," as published in the September 1959 issue?—*G. Co.*

Sorry, the demand for this has been so great that our supply of copies of Sept. 1959 issue, and tear sheets of that article, are exhausted. A new and excellent book on color is briefly reviewed in Sept. 1960 issue, page 84. We can supply this.

To Color Sunken Letters

Would you please send some names and addresses of manufacturers of lacquer sticks? We are interested in both the white and black sticks which will be used for filling etched or stamped numbers or letters on metals. —*S. F. Co.*

In a letter we are submitting names and addresses of firms which, we believe, can supply what you want.

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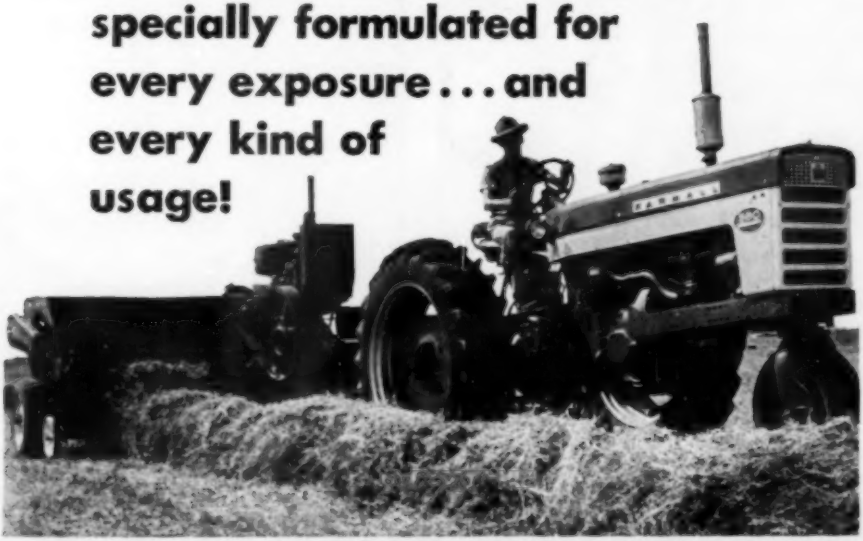

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CHATTANOOGA, TENNESSEE

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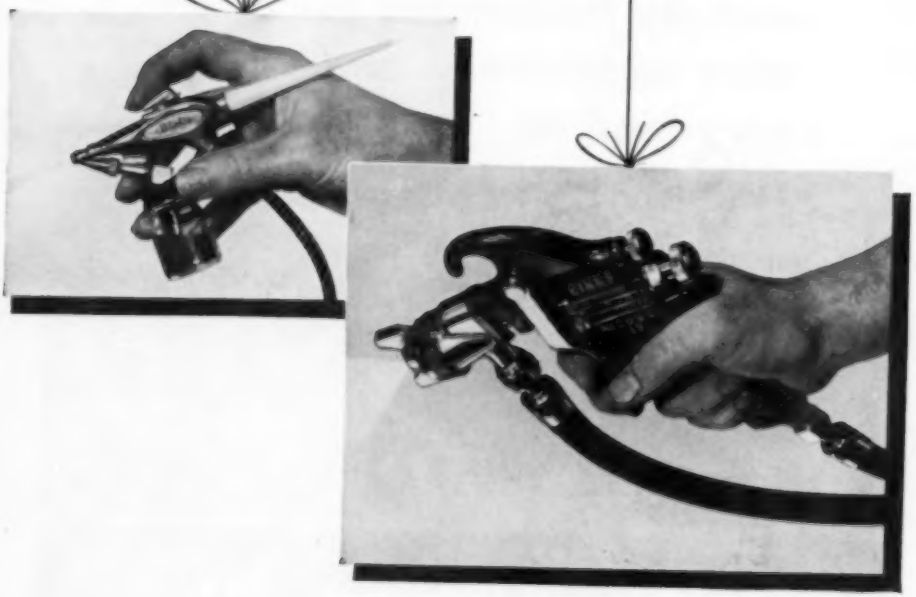
the right spray gun can make a big difference



It is possible to apply a wide range of finishes with a single spray gun...but it is not always economical. To get the most value from a spray gun it must be right in many ways.

—right for your coating...There are specific guns for spraying almost every coating material known to man... modern finishes, thick mastics, volatile dyes, oils, abrasive ceramic materials, adhesives, and many others.

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QUESTIONS and ANSWERS

High Solids Lacquers

I may ask some foolish questions, but I am eager to get some information about high-solids lacquer.

1) Are high solid lacquers around 30% or more of a higher cost than the 19% solids lacquers?

2) Is it a better finish?

3) Will a high-solids lacquer give you better durability?

4) Is the present trend toward higher solids lacquers?

5) What is a high-solids lacquer? How are the solids determined?

6) Usually, what do the solids in a clear lacquer consist of? What part does the solvent play?

7) After the lacquer dries hard, what part of the original lacquer is in the film?

8) Which will give you the nicest finish, the low or high-solids lacquer?

9) If you were finishing wood cabinets or furniture, and wanted a very full beautiful finish in one topcoat, would you use a low or high-solids lacquer?

I am trying to sell some of my large customers on using higher solids lacquers for better appearance, but some of them seem to think there is no advantage. Others seem to think that a higher solids lacquer should cost less per gallon. With your answers to the above questions, I feel sure I can overcome their objections. —*G. R.*

I will answer your questions first in the order in which they occur. Then I will add some qualifying remarks.

1) High-solids lacquers usually cost more than lower solids lacquers, because they contain more of the materials that are expensive. They also require more skill to formulate properly.

2) No, it is not a better finish.

3) Not necessarily. 4) Yes.

5) By the percentage of non-volatiles remaining when the volatiles are driven off or evaporated.

6) The solids in lacquer include nitrocellulose, plasticizer, modifying resin and pigments. Solvents keep the solids in solution and suitable for the method of application. After application, they assist the flow and leveling of the film.

7) The solids in answer No. 6.

8) For a nice finish, there is no difference.

9) A high-solids lacquer will give the fullest finish in one coat.

A lacquer of 30% solids accomplishes only one thing: It deposits 50% more dry film than one of 20% solids content, all other things being equal. If a customer has been applying a single coat of 20% solids lacquer, he will get a fuller finish from a single coat of 30% solids. However, if he has been using two coats of 20% lacquer, he will not get an equivalent finish from a single coat of 30% solids lacquer.

High-solids lacquers usually cost more because they generally contain more costly ingredients, all the way from the nitrocellulose to the solvents. However, a skilled formulator can often minimize this difference. But I doubt whether it can be eliminated.

Also, the term solids is not synonymous with quality. If that were ignored it would be no problem making either high or low-solids lacquers to fit any price.

Now for a qualification of question No. 9; if I wanted to have a full beautiful finish on a piece of fine furniture, I would not attempt to get it in a single coat.—*Geo. Conrad.*

I will try to answer your questions in order.

1) Yes.

2) Not necessarily; it depends on the type of finish desired.

3) Yes and no; depends upon type of finish desired and the end use of product.

4) Yes, from what I can find out from contact with people who should know.

5) A 30% to 35% solids; nitrocellulose, plasticizer and resin. It is determined by analysis.

6) Same as No. 5. Solvents are used to get the solids deposited evenly on the surface.

7) Solids.

8) It depends on the type of finish desired. A high-solids lacquer will give greater build.

9) High-solids lacquer applied hot. —*P. C. B.*

This is a large order, involving some nine specific questions. Rather than answer each question separately I will state what, in my opinion, are the facts. The answers will appear in due course; then at the end I will make a few general observations.

To start with, I will quote one of the larger producers of nitrocellulose:

"Most furniture lacquers are made with varying percentages of the following ingredients:

Nitrocellulose	(solids)
Hard brittle resins	(solids)
Soft plasticizing resins	(solids)
Plasticizers	(solids)

"The nitrocellulose contributes film strength, toughness, durability, hardness and (most important of all) cold-check resistance. A hard brittle resin, such as an ester gum, imparts adhesion, gloss and build, while at the same time it lowers the cost of the lacquer. The plasticizer adds flexibility, cold-check resistance and softness."

Naturally thinners and solvents are added to get the mixture into a suitable condition (liquid) to be packaged; and then, subsequently, to be brushed, sprayed, flowed or applied in some other way. The solids remain in the dried or cured film and the thinners evaporate. The solids are the film-forming ingredients; the thinners are transitory components; and it must be added that the selection of solvents is very important for many reasons. This is a brief and general elementary statement. The formulator must select every raw material with care and with due regard to the intended end use. It is a fact that the raw materials available can and will provide for almost any desired end characteristic, as well as workability and handling features. It is not in the scope of this memo. to advise as to the selection of raw materials.

You ask just what is a high-solids lacquer, how it is determined, etc. Taking the total weight of the lacquer (liquid) as 100%, the weight of the solids is expressed as the percentage of the total weight. I suppose that after the film has dried down the percentage of solids is what is left on the surface—but high or low solids refers to the percentage in the container or at the gun or at the pressure pot before applying. Actually, there may be no great difference insofar as ingredients are concerned between the two. It is merely a matter of the proportion between the solids and the solvent content. But bear

in mind that the selection of the nitrocellulose, the resins, the plasticizers and the solvents are the factors that determine the suitability of the mixture. Here again, it is a matter of formulation and the ingenuity and experience of the formulator.

Where is the dividing point between high and low solids? My conception is about 24% or 25% by weight. Sealers normally are fairly low in solids, because they are designed to seal and not to build. Top coats will run from 18% to as high as 22% solids in conventional lacquers. Above that they can run up to as high as 30% or even 35% solids.

I well remember my first sale of high-solids lacquer. The sales argument stressed that one coat would equal better than two coats of the previously used lacquer. The customer merely thinned it out more and thereby reduced the solids at the gun and gained nothing in time. As a matter of fact he used more thinner and I dare say he was nothing ahead. That was a case of the sales department not selling properly or at least not seeing to it that the customer secured the maximum benefits from the material. In selling any unfamiliar material, the sales treatment must be thorough and the customer must know just what he is buying, how it can best be used, and how to get the most satisfactory and economical results.

It is true that with one pass of the gun, or possibly a single dip, you can lay down a thicker film with high-solids lacquer. This may be an advantage and it may not. The old rule is that two medium coats are better than one thick heavy coat. Drying time probably will be slower. Adhesion may or may not be better. If the solvent balance is not just right, leveling may be a problem. In a furniture factory where careful control of the finishing process is possible, one coat may suffice, but in my opinion multiple coats are better.

I have not mentioned elevated temperature. Here, probably high-solids lacquers are better (around 150° F., and certainly not over 165° F. is used; nitrocellulose breaks down at 225° F.). Heat is used to reduce the lacquer (liquid) to a body that can be sprayed and the spray can be either the atomizing gun or the newer airless spray. There are many talking points—practically no blushing, good leveling and gloss, and quicker drying time. You do not have to wait for the solvents to evaporate.

As to the present trend to high-solids lacquers, I would say that like every new development there is an initial move to adopt it and to apply it to many uses. Like every new product, it eventually finds its rightful place in industry. Remember how zinc chromate was going to replace red lead as a rust inhibitive metal primer? Synthetic automotive finishes were to take the place of lacquers? And currently, the latex paints are supposed to be replacing the older types of paints? Well they all settle down in their place, where they are best suited. And so it is with high-solids lacquers. They will be used in their proper place, but I believe that the low-solids lacquers will be around for a long time.—*C. R. Brown.*

EDITOR'S NOTE: We invite further comment on this subject.

Represent Conforming Matrix in New England States

The appointment of Kensington Associates, Kensington, Conn., as full time representatives throughout the New England states, is announced by Conforming Matrix Corp., Toledo, Ohio, manufacturer of spray masking equipment and machines for decorative and protective painting. Kensington Associates is headed by Louis J. Barle and Donald A. Jepson.

Paint on Metal Tabs Wears Off Too Fast

We have a problem. We manufacture index signals and tabs and, as such, we carry a full line of printed items including Alphabets, Numbers, States, Months, etc., in addition to special printing. Our signals and tabs are used for indexing files, catalogs, books, visible systems and numerous other records. In the normal course of usage our signals and tabs are not handled extensively; their main function has been more or less of a permanent nature when applied on pressboard cards, guides, divider sheets, etc. In this way they are seldom handled and the printing lasts indefinitely.

Recently we had the privilege of working closely with the Bell Telephone System in devising a special Repair Service Completion Center in which our signals play an important part in the system. These signals are

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printed with various captions pertinent to their specific needs. In using this system we have discovered that the operators and field men of the Bell System must handle our signals innumerable times during the course of a day. Grease, oil, dirt and the natural chemicals emanating from the fingertips have caused the printing to disappear; or, if it does not disappear from service handling, it does from attempting to wash the dirt from the signals. In an attempt to combat this condition the following steps have been taken:

1) Signals are first blued.

2) They are spray lacquered with a clear lacquer.

3) The projecting portion of the signal is dipped in a lacquer of the color needed.

4) The projecting portion is printed with ink.

5) A double coat of clear lacquer is sprayed over the entire signal, allowing for sufficient drying time between operations, in an attempt to produce as hard a finish as possible.

This has not proved satisfactory as we are receiving returns of our signals for replacement of printing.

We use lacquers obtained through a nationally known firm, but if you or your associates know of a different lacquer or finish which would be hard enough to protect the printing and background of our signals we would be most grateful for the information. Enclosed is a sample card on which are attached several of the signals finished in the manner described and ready for application.—*F. E. T.*

EDITOR'S NOTE: These tabs are probably made of thin sheet steel, and each one measures ½ - in. wide by ¾ - in. long. The lower half, in solid dark color, is divided so it will fit tightly over a file card or a page or sheet of paper. The upper half (double thickness) is yellow or some suitable signaling color and is printed with numbers or letters or both (see drawing).

A clear synthetic baking enamel may give you slightly longer life, but under the rigorous use which you say these signals are given, it is doubtful if any coating will last indefinitely.

Would it be possible to use indented or embossed numbers and letters, with a contrasting color in the embossed area? This might extend the life of the signals, and even if the color were removed from the embossing through repeated scrubbing, it

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would still be readable. If this is impractical, my only suggestion is to consult your supplier of finish materials and try to obtain a tougher clear top coat that will provide longer protection.—*P. C. Bardin.*

From your description, it sounds like you are using an ordinary nitrocellulose lacquer. These lacquers are not particularly resistant to the sort of handling you mention, especially to that most corrosive chemical, human sweat. Several steps are open.

For the product you are making, you need resistance to salt, moisture, both acidity and alkalinity, and possibly to oils. In addition, you need water white clarity and high gloss. And, according to your present system, the finish on tabs must air-dry, the latter making it rather tough. Worst of all, I imagine that price also enters in to the picture.

The epoxies are excellent in adhesion, chemical resistance and durability; but they are not colorless; they must be catalyzed for air cure and they are very expensive.

Acrylics are tough, water-white and pretty fair in the chemical department. They are not cheap either, especially at application solids; but they do not attain maximum hardness fast, unless they are baked.

The third candidate would be cellulose acetate butyrate, which can be made into a colorless, chemically resistant lacquer. It also is more effective if it is catalyzed.

In my opinion, your best solution would be to install a baking system. Any reasonably good baked finish is far superior to the best air-dried finish, that is in those characteristics you must have. Furthermore, to build them into an air-dry material, your supplier must use a premium priced ingredient, while there are many reasonably priced materials that will do all that you need. [*Cont'd page 106*]

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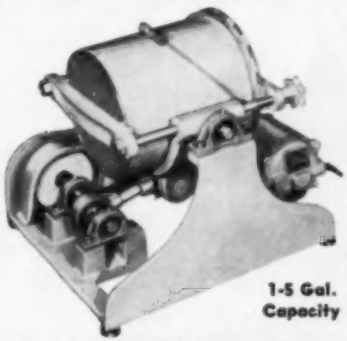

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Will condition paint to brushing consistency in one to five gallon cans without opening the can. Time required is from two to thirty minutes depending on the paint formulation and the length of time it has been on the shelf. Simply place the can in the saddle, tighten the end plates and flip the switch. Bull Dog will do the rest.

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For more data, circle 229 on colored card.

In case you should decide to try any of the above suggestions, I would advise that the entire system be designed to be compatible. I would not risk confining the change to only the top-coat, unless the supplier says it is all right.

I believe, also, that infrared baking would be excellent.—*George Conrad.*

I am assuming that the lacquer currently in use is nitrocellulose. There are two different materials which should be investigated and considered—a cold-cure epoxy and a vinyl lacquer. Both of these materials should have excellent adhesion to metal and they can be formulated to air dry. Both have good resistance to oils and greases. As a matter of possible interest, vinyl lacquers are used on oleomargarine wrappers.

It is probable that the printing ink will have to be changed because the solvents used in the two suggested materials are powerful. This should present no particular problem because the oleomargarine wrappers mentioned are printed under the final coat of vinyl. Ink manufacturers have developed literally thousands of inks for many different exposures. I might add that any ink used must not have a "toner" in it; it should contain a straight non-bleeding pigment.

Coming back to epoxy and vinyl lacquers, these can be made in colors and clear. Having excellent adhesion to metal, it is probable that the schedule will be shorter. It is probable that the second step (spraying with clear lacquer after blueing and before the color coat) can be omitted.

My suggestion is to submit this problem, in its entirety, to your present paint supplier. Inquire about the above suggestions. If he knows your requirements and the subsequent exposure, he certainly can come up with a suitable material.—*C. R. Brown.*

Why I Keep Records For Future Reference

IF A THING is worth doing it is worth making a note of the fact that it was done. So many times we set a procedure for something and, in the rush of getting things done, we forget to make a record of our decision. How often have you had this come back to haunt you some weeks or months later when it is no longer fresh in your mind and a question comes up about how we are doing something and when we started to do it?

A note or two in a note book will take a little time to find, but at least you have a record on file. When working in a laboratory it is absolutely essential to keep good records of work that you do. Many times I have had people work out formulations for new coatings that looked very good. About a week later I would ask for another sample only to find the end result quite unlike the previous sample. On checking into the reasons I have found that a record was not made of sequence of mix or the amount of several ingredients that were used. It is a nuisance to make notes when your hands are dirty but at a later date these notes can be worth their weight in dirt—pay dirt.

If you have to write a lot of letters, filing can be a pain in the neck, particularly if some one else is doing the filing and you have to find copies of letters when they are not around. I have found it very helpful to keep copies of outgoing correspondence in

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a chronological binder type file. In the front of this file I keep an index into which is added a description of each letter written and the date. Each letter is numbered and this number appears on the upper right hand corner of the file copy. The number also appears in the index. You may fill two or three binders a year but your correspondonce is at finger tip reference. These binders don't take up any more than the usual room in the front section of the file cabinet.—*F. W. Porter.*

R. Blackwell Joins Ionic

Mr. Ronald Blackwell has just been appointed to Customer Research Assistance by Ionic Electrostatic Corp. Mr. Blackwell was formerly paint superintendent of the Sunbeam Lighting Co. of Gary, Ind. His activities at Sunbeam entailed the formulation of paint, supervision of production and overall maintenance of conveyorized finishing equipment.

Mr. Blackwell, who is stationed at Ionic's Research Laboratory in Garfield, N. J., will be actively engaged in customer research projects and will demonstrate and recommend Ionic electrostatic spray coating equipment. In this function, Mr. Blackwell will be assigned to the project from beginning to final completion — research, recommendations, sales-supervision of the installation and service. This continuity of customer relationship, is a feature devised for giving the customer the services of one qualified technician from the original contact through sales, service and installation.

N. M. Thomas; U .S. Stoneware

Noel M. Thomas has joined The U. S. Stoneware Co.'s Plastics & Synthetics Division and will handle inside sales and sales correspondence of the Akron, Ohio, firm's Tygon flexible plastic tubing.

Fineness of Pigments Not Always What You Think

MANY specifications for industrial paints and lacquers require a specific standard for fineness of grind, as determined by the Hegman gauge. This gauge is a highly finished, machined steel plate with tapered channels where the paint is drawn down. Where particles appear in the first clustered grouping, a numerical reading can be obtained on the steel plate.

A true understanding of the value and meaning of fineness of grind is important in the evaluation of finishes. In many places it is considered that a fine pigment grind is essential if high gloss is to be obtained. While this is usually true, it is possible to obtain fine grinds of 8 on the Hegman gauge and yet not obtain maximum gloss. On the other hand high gloss can be obtained with grinds as low as 6 Hegman; and while I have not seen it, I have been told of lower Hegman readings producing a smooth gloss.

Basically the theory behind the fine-grind high-gloss situation is based on the thought that finer grinds allow pigment particles to be packed closer together in the finished product, thereby presenting a more uniform surface and hence greater angular gloss. A coarser grind would cause more diffusion of light as the individual particles are struck, hence a lowering of the gloss reading.

With pigments being produced today in ever finer sizes (as small as

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The New PEARL GLO

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SUPERIOR TO NATURAL
at the Synthetic Price

TEST PEARL GLO (new synthetic *Patented essence), whether you spray, dip or incorporate, you'll find a saving in equipment & labor required. Use it on any sealed surface, plastic, metal, wood, leather, paper, etc. It may also be incorporated into Acrylic, Polyester, Vinyl, Polyethylene, etc. Gives a dazzling pearl finish at very low cost.

WRITE TODAY FOR A TRIAL SAMPLE OF PEARL GLO for a test run and full information. Specify application & choice of vehicle.

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Ask About

GRAINING

with plates or cylinder machines

Used for twenty-eight years by leading manufacturers for reproduction of wood grain on wood, hard-board and metal.

AMERICAN RICHWOOD PRODUCTS CO.

Graining Plate Division
104 E. Mason St. Milwaukee 2, Wis.

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the single micron or less) fineness of grind in itself can no longer be used as a positive guide.

The point to be emphasized then is that degree of dispersion is far more important than Hegman fineness readings. Thus a micron pigment may show an 8 reading, but still not be effectively dispersed to produce high gloss and minimized settling.

To follow blind adherance to a fineness of grind standard may be an unnecessary inconvenience to the paint manufacturer and user alike. A low grind reading may mean rejection of an otherwise acceptable quality product, while a high Hegman reading may delude a quality control technician into believing that he has full hiding, color, gloss and anti-settling properties. Finishing rejects may cause a severe awakening.

Testing fineness of grind is important but it does not indicate automatic acceptance of other properties. The realization of this point may make life in the paint industry just slightly simpler.—*N. Norman.*

Sanders Named Sales Mgr. For Eastman Chem. Products

John H. Sanders has been named as sales manager of the Chemicals Division of Eastman Chemical Products, Inc., Kingsport, Tenn., the marketing subsidiary for products manufactured by Tennessee Eastman & Texas Eastman Co. divisions of Eastman Kodak Company.

Sanders was a regional sales manager in the Chemical Sales Div'n., with headquarters in Cleveland, Ohio. He succeeds G. A. Kirton who will concentrate on international sales of Tennessee and Texas Eastman products.

Outdoor Tests in Many Areas Give You Facts

YES, IT IS important and worthwhile to conduct tests on finishes applied to products—whether those products will be used indoors or outdoors. If the articles are sold internationally and shipped for use out of doors, where they will be subjected to many different climatic conditions, the importance of comprehensive testing of the finish is still greater.

In order to get the best possible finish, both in point of protection and appearance, one large electrical equipment firm has set up test stations in Alaska, Texas, California, New Jersey and Florida. Similar test panels, coated with various finishes, are set up in each station to subject the coatings to cold, ice and snow, sandstorms, chemical contamination, salty atmosphere, moist heat, dry heat, industrial contamination, smog and humidity. Every six months some of the panels are sent in from each test station to the company's laboratory for observation and evaluation of the finish; then they are returned for further exposure.

There is no question but what exposure of these finishes to the various actual climatic conditions provides the most comprehensive tests. These tests develop data, over a period of several years, that laboratory tests will not reveal in a much shorter period of time. Testing stations, both commercial and privately owned, are operating in the

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Here's everything that management and worker alike could possibly want in a dust respirator!

1. **Form-fitting design:** Self-adjusting to any size and shape of face without pressure or irritating discomfort.
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FLEX-A-FOAM DUST MASK

FLEXO PRODUCTS, INC.
Westlake, Ohio

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Southern states where test panels are exposed to varying degrees of sunlight, heat and humidity, salt air, etc. Many manufacturers take advantage of these actual climatic exposure tests to obtain information about the performance of their finishing materials.

Few firms have the personnel or the capital to establish test stations in the far North, West and East to obtain factual data on the effects of sandstorms, smog, various industrial atmospheres and chemical fumes. If some commercial testing laboratories would expand their facilities to embrace practically all actual climatic conditions, more of the alert, progressive manufacturers would avail themselves of these expanded services. Until such facilities become available most of the paint and lacquer companies will have to depend on laboratory tests.—*P. J.*

Wise Choice of Primer Saves Finish Enamel

MOST OF US are familiar with the advantages of using a primer. Such a coating gives an extra measure of protection against humidity, chemical attack and corrosion where needed. It offers a means of incorporating special protective pigments such as zinc chromate, red lead, etc., which could not be used in the topcoat because of their color. Finally, it improves the adhesion between the metal and surface coating.

Not so well known, however, are the benefits to be derived from selecting a primer color which will supplement the hiding of the topcoat.

Medium-dark to dark colors and black intrinsically have such high opacity that enamel coverage usually is no problem. However, this is not

Bond. TACK CLOTH

PACKED IN ROLLS OR IN BULK
JUST THE WAY YOU WANT IT!

A SPECK-FREE FINISH EVERY TIME—Stays Soft and Tacky—Now available in white or gold—in Four Different Types of Cloth.

There's a big difference in TACK-CLOTHS—that's why BOND processes four different meshes of cloth with several types of formulations to give you the cloth that best "fits" your special needs. You can get BOND TACK CLOTH packed just the way that suits you best, too—in 150 yard Rolls of 36" wide cloth or in handy Cartons.

No matter which way you buy it, you can be sure that every square inch will stay SOFT and TACKY until the very last bit is used up.

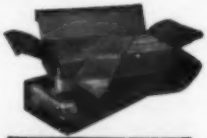
ALL BOND TACK CLOTH is Spontaneous Combustion Proof, Lint-Free and Wax-Free. Gives a sparkling speck-free finish every time. Clean and Sanitary. No waste. Choice of Standard, extra Tacky or less Tacky.

TRY THEM AND COMPARE RESULTS. Samples gladly sent upon request.

A WARRANTY OF SATISFACTION IN EVERY CARTON

IN ROLLS

Cut off any size piece as needed.



IN BULK

Size is 18" x 36"—folded to 4-½ x 18" or 9" x 18" for ease of handling. Cut and folded—ready to use.

Also Individually Packed in Glassine Envelopes — 144 to the carton.

Bond "The Tacky Wiper Specialist"
CHEMICAL PRODUCTS CO.
2641 N. Clybourn Ave., Chicago 14, Ill.

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the case with pastel colors, yellow and white. Here a primer can contribute considerably to the hiding of the primer-topcoat system. It thereby effects an economy in the amount of topcoat necessary to achieve adequate coverage.

Thus it is possible, for example, to employ a *light* gray primer and follow this with an average white enamel at around 1.0 to 1.2-mils and still obtain hiding. Over a *dark* gray primer, or bare metal, it would be necessary to lay down a dry film thickness of approximately 1.3 to 1.5-mils to accomplish this objective. This represents a 25% to 30% greater consumption of an expensive enamel when using an undercoat of high color contrast.

WALK-IN OVENS
Shipped set up— merely uncrate and connect
Model B-3 Electric, Gas, Oil or Steam Walk-In Oven
Thorough factory testing assures immediate operation. No installation crews or plant tie-up.
• High velocity recirculating blowers
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These efficient, rugged walk-in ovens incorporate the latest convenience features and safety devices.
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• Indicating temperature controller
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Other ovens from $121.50 up, including a complete line of laboratory, bench, cabinet and custom-built units.
Write for literature to select the right oven for your application.
Specialists in Heat Process Equipment
GRIEVE-HENDRY COMPANY, Inc.
1341 N. Elston Ave., Chicago 22, Illinois
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Where a single light colored enamel is being used, it is of advantage to employ a light gray primer tinted with that same shade. Applying a pastel blue enamel, for example, over a light blue-gray primer is most economical. Sufficient gray should be present to afford a slight color contrast between the two coats. This allows the sprayer a chance to quickly see the area that has been covered with the finish coat.

If a number of different light colored enamels are being used, it is advantageous to standardize on a light to medium gray undercoat. This color does not clash nor offer a high contrast with any of the lighter colors. Even zinc chromate can be incorporated into such a primer to give a

greenish-gray shade. Furthermore, this shade will serve as an effective shop coat where needed.

Examples of dark green, dark red and even black primers, with accompanying light colored enamels, are not uncommon in the paint field. They are costing their users money for an extra thickness of topcoat.

It is true that the common red oxide primer is priced less than a light gray primer. However, the cost difference is outweighed by the extra paint needed to achieve sufficient coverage with light colored topcoats. Where dark to medium-dark colors or red or orange are being used in the cover-coat, the traditional red iron oxide primer is definitely the type to use.

With these exceptions, the judicious selection of the appropriately colored primer will pay dividends in time and paint consumption.—*Karl Schreiber.*

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Their 16th CLAIR machine

was installed in 1960 !

The name "Reed & Barton" remains synonymous for "Quality Silverware" since 1823. With pardonable pride, CLAIR Surface Finishing Machines boast of their part in the renowned "Reed & Barton" craftsmanship.

With 11 different and highly diversified models to choose from, why not confront Clair Mfg., Co., Inc. with your problems?

CLAIR

You may be surprised to learn that Clair machines are quietly performing to the advantage of your competition on identical applications.

MANUFACTURING CO., Inc., OLEAN, N.Y.

Offering the Most VERSATILE Line of Surface Finishing Machines

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The problems of management can be illuminated with some help from research. In general, it is true that good solutions depend on a large number of factors and on information-gathering from many different fields.

The most successful decision-makers are those who can best process, interpret and put facts to use.

If a little learning is a dangerous thing, too much — that is, knowledge not put to good use —can be costly waste.

Too many undigested facts can turn a man of action into an individual paralyzed by indecision.

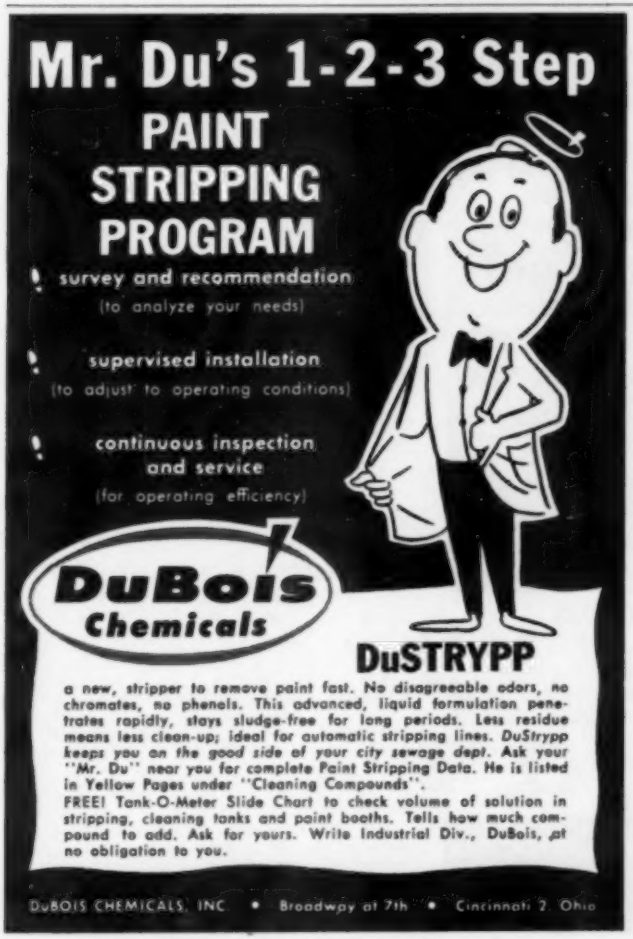
Judging The Value of A Coating by Performance

EVALUATION of industrial finishes is an important function carried out daily in many plants concerned with organic coatings. Each person or manufacturing facility has his own method of determining the relative merits of a lacquer or enamel film. All too often, however, superficial or snap judgment may be the cause of a superior product being by-passed.

As has been stated many times previously, the ultimate in industrial finishes has not as yet become a reality. The best of organic coatings are compromises, to derive the major qualities desired by the finisher.

Recently I learned of an evaluation conducted on a water-based product. On the basis of failure in salt spray, water immersion and abrasion, the coating was quickly rejected. In the testing routine, some test panels were sent to Florida for outdoor exposure. A year later when the panels were returned — and at this time the water-based product had long since been forgotten — a surprising development was noted. Not only did this product appear to withstand the ravages of weather and environment far better than the more conventional solvent coatings, but on abrasion and impact testing it appeared to have actually improved on aging.

Of course, it is realized that a year or so is a long time to wait for the results of an evaluation of a coating. When production neces-


Mr. Du's 1-2-3 Step
PAINT STRIPPING PROGRAM
survey and recommendation
(to analyze your needs)
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(to adjust to operating conditions)
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(for operating efficiency)
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a new, stripper to remove paint fast. No disagreeable odors, no chromates, no phenols. This advanced, liquid formulation penetrates rapidly, stays sludge-free for long periods. Less residue means less clean-up; ideal for automatic stripping lines. DuStrypp keeps you on the good side of your city sewage dept. Ask your "Mr. Du" near you for complete Paint Stripping Data. He is listed in Yellow Pages under "Cleaning Compounds".
FREE! Tank-O-Meter Slide Chart to check volume of solution in stripping, cleaning tanks and paint booths. Tells how much compound to add. Ask for yours. Write Industrial Div., DuBois, at no obligation to you.
DuBOIS CHEMICALS, INC. • Broadway at 7th • Cincinnati 2, Ohio
For more data, circle 203 on colored card.

Prillaman Drawer-Glide Waxes penetrate deep into pores of the wood, thereby giving the drawers dimensional stability, a moisture-proof coating and lubricating the surfaces for easy sliding. They also beautify the wood and give surfaces a smooth, waxy feel. Supplied in color or colorless to be applied by spray, brush, sponge or dipping.

THE PRILLAMAN CO.
MARTINSVILLE, VIRGINIA

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OP-AL BURN-IN TOOLS and KNIVES are made of hardened tool steel especially selected for the purpose. The blades are cemented in the handles with ceramic cement to withstand high heat without coming loose from the handles, which are streamlined and well balanced for easy handling.

OP-AL THE OP-AL ELECTRIC AND MANUFACTURING COMPANY
3133 MARTINDALE AVE.
INDIANAPOLIS 5, INDIANA

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sity dictates, even a few minutes may seem to be too long to wait.

Many industrial finishes reflect their maximum properties immediately or soon after application. However, after a lengthy period there may be progressive curing or oxidation which could be harmful to the manufactured product. For example, a lacquer may give a maximum hardness shortly after being applied, but in a month or two it could develop brittleness and checking. On the other hand, the softer finish may prove to be a more durable product. It must be determined, by balancing the factors, which is more valuable, a good finish immediately, or one that is more durable over a longer period of time.

All of this should be considered when evaluating new industrial finishes. Sometimes it may be a wiser choice to investigate over a longer period of time. How often has a product been overlooked or rejected only to find that some months later the rejected material would have been the ideal coating to use. Many times, of course, rapid rejection is merely the work of a lazy mind taking the path of least resistance. A proper evaluation of anything, whether it is industrial finishes or something else, determines not only what is wrong but also what is good about the product and what potential value it may have in the future.—*N. Gaynes.*

Oakite Names Kornett to Board

Peter J. Kornett has been elected to the board of directors of Oakite Products, Inc., manufacturer of chemical compounds for industrial cleaning and metal treating.

Mr. Kornett joined Oakite in 1941 as a control chemist. He is now the company's general manager of manufacturing, and is responsible for the production of the firm's 165 products for application in the metalworking and other industrial fields.

To Get Unpleasant Work Done, Stay With It

DO YOU EVER have a days end which brings only a realization that nothing was accomplished? Perhaps I should say, how many days are in that category? Often they are days when you seemed to work every bit as hard, too. Perhaps they can stand a little analysis.

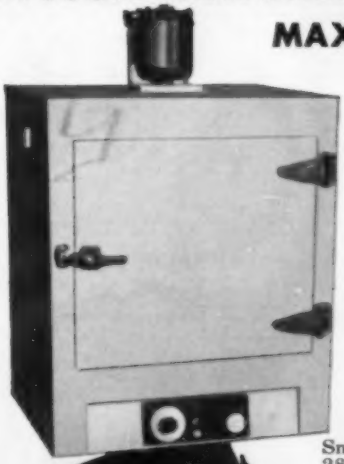
Possibly you don't care much about results. On the other hand, you may be like me. I need a little sense of accomplishment at the end of the day to sustain me. If so, let's check over one of those bad days. How many things did you start but fail to finish? How many projects did you permit to head into blind alleys, to no purpose? Or, do you waste precious time in indecision, wavering between this idea and that?

Let's say you start to check over an automatic spray painting machine, and you find a frayed hose. While searching for a replacement, you notice that there are several different sizes of fittings in your hose stock. This gives you the idea that it might be a good time to standardize. However, after some searching you realize that you cannot get a matched set without cleaning out half of your stock of fittings. Finally, the buzzer stops your wandering for that working day. Shake hands with a fellow dawdler. Sometimes, these distractions are not of your own doing.

This morning, for instance, we decide to inventory and systematize the paint

Forced Convection Ovens

MAXIMUM 500° F.
FOR LABORATORY TESTING



Sterilizing, tempering glass, preheating plastics—only a few of many uses for these versatile ovens.
Forced air convection allows accurate automatic control of evenly-distributed heat. Rugged construction, ease of operation and economy—plus practical good looks—guarantee a wise investment.

Small size overall dimension: 28" wide, 16" deep, 43½" high. Inside dimensions: 20" x 16" x 18"; gives option of several heats in a single laboratory. *Models available for either 110 or 220 vac.*

Write Today for free bulletin 203-10BD.

Price $330.00

DESPATCH OVEN CO.

DESPATCH OVEN CO. 619 S.E. 8th St., Minneapolis 14, Minn.

For more data, circle 204 on colored card.

stock. So we take a couple of men down to the warehouse and start pulling out the whites. You are called to the phone for a lengthly if inconsequential chat, following which you find a salesman waiting for you; he manages to tie you up until after lunch.

It is mid-afternoon before your thoughts return to the paint stock. You hurry over to see how the boys are progressing. Since they had been left without instructions, your finding them starting their 1000th game of 'tick-tack-toe' need occasion no surprise.

Another thing that can produce wasted days is to start a job, run into difficulties with it, and then yield to the temptation to lay it aside. It is so easy to believe that the solution will come more easily tomorrow, but it seldom does. Those bad ones have a crazy habit of piling up.

No, men; the only way to see the end of a job is to stay right with it. I know that is easier said than done. Whether it is a personal chore or a part of supervision, plan it efficiently first; then keep at it until you can finally say, "That's that." And it's finished.—*Ken Mac.*

DeVilbiss Co. Gets Certificate

The DeVilbiss Co. has been awarded a Certificate of Cooperation from the International Cooperation Administration of the State Department for its contribution to the interchange of information and the furnishing of technical assistance to selected representatives of countries cooperating with the United States in the program.

The company has made its spray painting school and customer research laboratory available to foreign visitors being sponsored by the ICA, so that the latest techniques in spray application can be demonstrated.

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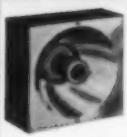
driQuik Infra-Red Ovens Make Possible Greater SPEED and SPACE SAVING

in finishing at GATEWAY MFG. CO.
Louisville, Ky., Kitchen Cabinet Plant



Base and top coat finishes are dried in less than 2 minutes each in dri-Quick ceramic type electric infra-red ovens, saving Gateway money and increasing production by a large margin. Rack drying, handling and space costs are completely eliminated. *Small as well as large plants* which finish wood, plywood, hardboard and similar products have found these additional advantages in drying with driQuick infra-red ovens. 1. More uniform better quality product; 2. Because there are no bulbs or sockets to burn out, maintenance costs are at a minimum; 3. Temperature can be set to within 1 degree of heat desired, by turning a knob. We will be happy to bring field test equipment to show you what can be done with *your* product and *your* finishes.

driQuik DIVISION
DRY CLIME LAMP CORP.
GREENSBURG, INDIANA

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Conveyor Maintenance And Lubrication

THERE IS MUCH more to the successful operation of a conveyor than merely watching it travel along. If planned maintenance is practiced in your plant, the chances are good that your conveyor is properly lubricated. If you do not have planned maintenance, perhaps conveyor lubrication should be given immediate attention. A conveyor that isn't properly lubricated can cause lots of trouble and expense.

Now you may say, "So, let's oil it." There is more to it than grabbing an oil can and going to work. In the first place there is a specific lubricant for every type of conveyor and the conditions under which it operates. Let's break that down to something definite. There are overhead monorail chain and cable driven conveyors; also screw type, canvas belt, crossbar, spindle and roller conveyors. In some plants the conveyor operates continuously on a 24-hour basis; in others it operates intermittently. Speeds vary too.

Some conveyors carry the parts in process through power washers and ovens of varying temperatures from as low as 110°F. to a burn-off or hydrogen relief oven at 450° to 600° F. Some finishing conveyors pass through a stripper and hot water rinse tank on each cycle to remove accumulated paint from the conveyor and work holders. Some conveyors are designed to index for certain operations; on

KILL STATIC WITH A GUN!

Simco Ionizing Air Guns will put an end to static woes in any finishing operation! Plastic parts are blown clean, while being neutralized, so that dust, dirt and lint are *completely* removed and will not be reattracted! This new electronic air gun is safe, easy to use, and *guaranteed* effective! Write for facts.

the SIMCO company
920 Walnut Street, Lansdale, Pa.

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others the work holders are revolved as in an electrostatic spray booth.

In the case of conveyors that are used to transport rough unfinished parts, a few extra drops of oil for lubrication would do no harm. On the other hand, even one drop of lubricant from a finishing conveyor could easily cause a reject. Too much of the wrong kind of lubricant on a screw conveyor in a flock coating machine could damage flock fibers and produce many rejects before being discovered.

Obviously there is no such thing as one kind or type of lubricant for all conveyors, under any one or all operating conditions. The lubricant must be designed for the particular conveyor, what the conveyor is used for, and the specific conditions under which it operates.

There is now available automatic equipment that keeps the conveyor lubricated with the correct amount of lubricant so that, for instance, on a finishing conveyor there could be no excess of oil or graphite to drip onto the product before or after a coating operation.—*J. G.*

Beck Changes Name

Beck Equipment Co., Cleveland, Ohio, is changing its name to Beck Equipment & Chemical Co. Customer demands for the chemical products produced by the company caused the name change, according to Louis Beck, President. The new name better describes the expanded line of chemical products, processes and services offered by this 14 year old company.

Beck manufactures and formulates Epoxystrip and a complete line of chemical paint removers which strip off everything from epoxies to carbon without corroding magnesium or aluminum. Also available from Beck are accelerators for continuous hot or cold stripping.

The modern plant, offices and laboratory of Beck Equipment & Chemical Co. are located at 3350 W. 137th St., Cleveland 11, Ohio.

Vincent J. Dolan Dies

Vincent J. Dolan, founder and president of V. J. Dolan & Co., Inc., manufacturer of industrial finishes in Chicago, died in his home Tuesday, September 20. Mr. Dolan was 67. Survivors include his widow Elsa, and a son William V. Dolan, who is active in the management of the company.

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PROTECT LUNGS *against* PAINT SPRAY – DUST – FUMES

DUPOR No. 4 RESPIRATOR has big double filters for easy breathing and greatest filtration! Soft rubber face mask gives airtight fit. Patented DUPOR valves bring in clean air—throw off breathed air! Weight 4 oz. Economical! Costs only $2.25 postpaid. Order Now!

H. S. COVER CO., Dept. 1010, South Bend 14, Ind.

For more data, circle 207 on colored card.

Make Paint Stick to Metal Surfaces

THOSE WHO BUY products made of sheet metal hope and have a right to expect that the paint will adhere as though it were part of the metal; and, if the painted metal is deeply scratched, torn or cut, there must be no flaking of paint near the damaged area—and no rust creepage under the paint. Permanent paint adhesion and dependable rust proofing are assured by the use of an adequate phosphate treatment as one phase of a multiple-stage cleaning process. Most concerns use it now. The whole process (cleaning, phosphatizing and rinsing) is generally enclosed in a conveyorized tunnel. Solutions are tested (titrated) at regular intervals during the day's production and more chemicals are added when and if needed to keep up the solution strength.

The final stages of this modern cleaning and phosphatizing process for steel surfaces is usually a dry-off oven through which a conveyor carries the sheet metal products being processed. It may be a convection oven or an infrared drying tunnel.

Several reputable concerns have engineering personnel who are experienced in designing, building, installing and placing in operation standard or special equipment for cleaning and surface treating metal parts of various kinds, shapes and sizes. And there are many concerns who are prepared to supply the

Watson-Standard
metal
COATINGS

Watson-Standard's long experience in making special metal coating formulas is available to you through our laboratory and field technicians. Let us show you how Watson-Standard's metal coatings can solve your problems.

Watson-Standard Co.

W-S PLASTICS · INDUSTRIAL FINISHES · CHEMICALS

225 Galveston Ave. Pittsburgh 30, Pa.

For more data, circle 208 on colored card.

chemicals used in this processing. In fact, treatments are now available for making paint stick to galvanized surfaces.

In some cases the cleaning and surface treating operations are done by dipping. Here, of course, the interval of immersion in each solution must be carefully timed to make it effective. The surface must be perfectly dry before any paint is applied.

Jobber Representatives Attend School at DeVilbiss Plant

The largest jobber school in the company's history, attended by 33 jobber representatives from throughout the country, was held recently at the factory headquarters of The DeVilbiss Company, Toledo, Ohio.

In a concentrated 5-day course, virtually all products of the company were covered in discussions and demonstrations. New equipment, such as airless spray and the equipment for spraying catalyst foam, was emphasized, but attention was also given to automatic spray machines, die lubricating units, mist coolant sprays, and cleaning booths for industry, along with regular spray painting equipment.

A special session covering products of DeVilbiss Metal Fabricators Co., including industrial ovens, parts washers, dust collectors and kindred equipment was also scheduled.

Special talks on the sale of spray equipment in the marine field, on the company's service policy, on advertising and the techniques of selling to industry were included in the schedule. Tours of the plant, including the rubber plant where the company makes its own hose for various types of spray application, were also arranged.

Westinghouse Appoints New Ultrasonic Distributor

Production Methods Co., 2941 Touhy Ave., Chicago, Ill., has been appointed distributor in Illinois, Wisconsin and in northwestern Indiana for Westinghouse ultrasonic cleaning equipment.

The Chicago firm, headed by Marvin Klein, is a distributor of metal cleaning and finishing equipment. It will handle all lines of Westinghouse ultrasonic cleaning equipment produced at the company's X-ray and Industrial Electronics Division in Baltimore, Maryland.

Tinting Colors Come In Squeeze Bottles

Adelphi's all-purpose tinting color may be dispensed by simply squeezing a transparent plastic bottle. The concentrated color will tint all types of paint —latex, vinyl, alkyd, or oil-base—by just squeezing the bottle.

Colors are available from Adelphi Paint & Color Works, Inc., 86-00 Dumont Ave., Ozone Park 17, New York.

Jobber representatives get a close-up look at the latest DeVilbiss equipment in operation.

● SUPPLIES
● MATERIALS
● EQUIPMENT

Ride-the-Rod Automatic Spray Coating Machine

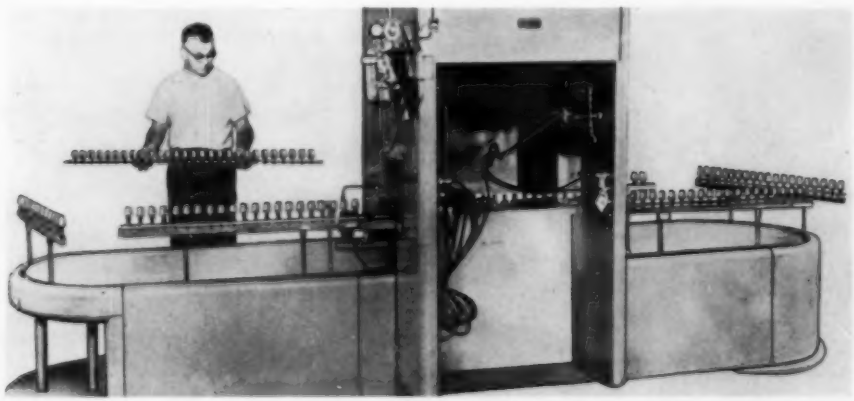
For prime and finish coating, baking, metallizing—especially for multiple-coat operations—this new machine offers possibilities for big savings, according to the manufacturer.

Each part to be coated is placed on the upright spindle or work-holder of a carrier rod. The spindles, instead of being attached to a moving chain, are on carrier rods independent of the chain. When a carrier rod is placed on the machine, 20 or 30 parts are loaded at once. Lifting off the carrier rods removes all of these parts, and they stay on the rod through all stages—prime coating and baking, finish coating and baking or metallizing. Rejects are reduced in this multi-stage operation because the parts are not manually handled but "ride the rods."

When changing from one painting job to another, there is no down-time with the new "Ride-the-Rod" machine; the operator attaches new spindles or work-holders to the carriers in advance and has them ready for the change.

The new method is practical for vacuum metallizers to use for applying the base coat and top coat, and for handling the parts through plating—or for any coating or baking operation.

The machine can be used either with rotating or non-rotating spindles or work-holders. For long runs the parts can be loaded on the carrier rods automatically and coated at



Small parts are loaded on spindles or small work-holders of carrier rods which, in turn, are placed on the traveling spindles of an automatic spray painting machine. This way they can be handled safely and easily through spray coating, baking and vacuum metallizing.

speeds of up to 30,000 per hour. The machine's speed is adjustable from 200 to 600 carrier rods per hour. Where the individual parts must be rotated, the speed of their rotation is also adjustable, independently of the carrier rod speed. This equipment can be furnished with either dry type or water-wash spray booths.

The "Ride-the-Rod" coating machine is made by Finish Engineering Co., 921 Greengarden Road, Erie, Pa.

For more data, circle 1 on colored card.

Special Air Nozzles to Spray Polychromatics and Acrylics

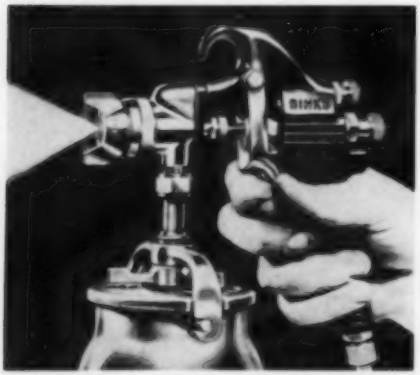
To meet the special conditions inherent in the spraying of polychromatic lacquer and acrylic enamel, Binks Mfg. Co., Chicago, Ill., had developed a special set of precision made, low-pressure air nozzles.

Since the metallic finishes do not flow as easily as most other paints, it is generally the practice, when using standard nozzles, to increase the air pressure to insure good flow and more complete atomization. When this is done, a mottling effect results.

Reducing the air pressure aids in preventing mottling, but sacrifices good atomization. To retain both, the quality of the finish and efficiency of atomization, the new Binks nozzles have been designed to operate efficiently at pressures as low as 40-lbs.

Four nozzle types are offered. Binks Mfg. Co., 3116 Carroll Ave., Chicago 12, Illinois.

For more data, circle 2 on colored card.



Air jets shown permit part of atomizing to be bled off, making it possible to obtain good results when spraying acrylic and polychromatic materials.

Impregnation and Paint-Base Coating for Magnesium

A process that combines impregnation and paint-base coating of magnesium-alloy castings, in a single operation, has been developed by The Dow Metal Products Co., a Division of The Dow Chemical Co., Midland, Michigan.

The new process is a modification of the standard Dow 17 anodize treatment. Regular Dow 17 procedure provides a paint base but does not seal all of the porous areas of castings. The modification consists of allowing a current "dribble" of 20 to 30 minutes constant voltage at the end of the normal anodization period.

During the dwell, anodization continues primarily in the pores of the casting, sealing even the minute pores effectively.

For more data, circle 3 on colored card.

Centrifugal Type Electrostatic Hand Spray Gun

The availability of an illustrated bulletin describing the recently developed Ionic Electrostatic Hand Spray Gun, with the new electro-centrifugal dispersion technique, has been announced by John Sedlacsik, Jr., President of Ionic Electrostatic Corp. The bulletin illustrates and describes the design application of the hand spray gun Model 10.

The Ionic Electrostatic Hand Spray

Gun utilizes the basic principles of electrostatic spraying but pre-atomizes the paint particles by powerful turbine-driven centrifugal action. This entirely new principle makes "wrap-around" coverage possible for metallic as well as non-metallic paints and extends the application of electrostatic methods to a great many other paints without requiring special formulation.

The Ionic hand gun Model 10 is available in a straight or 45° angle head. The address of Ionic is 111 Monroe St., Garfield, New Jersey.

For more data, circle 4 on colored card.

Air-Dry Tank Coating

Plasite No. 7155 is the name of an air-dry protective coating for lining tanks for the storage of high purity water at elevated temperatures in the 200° F. range.

The coating has good resistance to high temperature brine, caustic solutions and solvents. Wisconsin Protective Coating Corp., Green Bay, Wisconsin.

For more data, circle 5 on colored card.

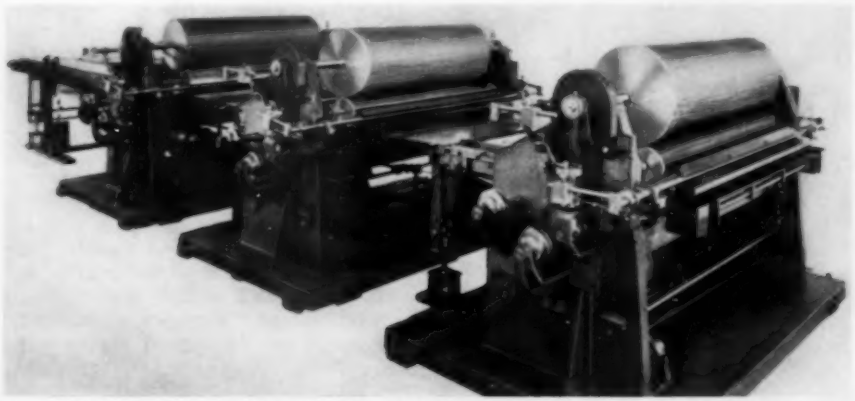
Hamant Add-A-Unit Grainer

Hamant's MC-H158 "Add-a-Unit" Graining Machine makes it possible to prepare for multi-color graining upon any desired basis.

The beautiful wood grain reproductions resulting from multi-color close-register graining are finding ready acceptance for many different products, and buyers show a marked preference for such products wherever they are offered.

For firms who are not yet ready to offer multi-color grained finishes, but who wish to prepare now for future multi-color production, these new Hamant MC-H158 "Add-a-Unit" graining machines offer a practical solution. The powered unit can be purchased now and used for high-quality single-color wood grain printing. Additional units designed for close-register operation are synchromized and driven by the powered master unit. One or more may be added at any time.

The new "Add-a-Unit" graining machines are designed for very close-register work so all of the natural tones of the wood itself can be overprinted in the same positions in which they appear in the original



This machine produces excellent multi-color close-register printing of natural wood grain.

sample. That is why work printed on these machines is so true to life when compared with the original. Many construction features make this possible. Each unit prints a separate color and whether installed initially or at a later date, is in perfect synchronization with the master unit. The Hamant Tool Co., Inc., 502 Warren St., Dayton 9, Ohio.

For more data, circle 6 on colored card.

HydraAirless 30 System Offers Remarkable Efficiency

The HydraAirless 30 system for airless spray painting has been introduced by the Spee-Flo Co., 6614 Harrisburg, Houston 11, Texas. It is designed to take full advantage of the total atomization H-Gun introduced by the company early this year.

The system features the new Atlas II pump, a high pressure reciprocating pump designed expressly for airless spraying. This divorced construction, long stroke pump is powered by a 5½-in. air motor of balanced design. Operating pressures up to 3000-psi. are available with this 30 to 1 ratio pump.

In addition to the high ratio feature, the Atlas II offers 40% greater volume and will handle up to four guns, either manual or automatic. The HydraAirless 30 "loafs" on conventional applications and has ample reserve power for the heaviest requirements.

Materials, which formerly could not be sprayed, can now be handled easily by the HydraAirless 30 and the H-Gun. Heated or unheated, fixed or portable, the HydraAirless 30 is available in 10-gallon and 55-gallon sizes and also as a standpipe unit for circulating systems.

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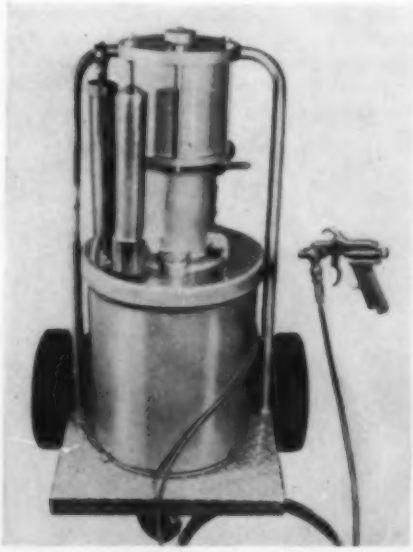

Spee-Flo HydraAirless Model 30-1 mounted on handy platform dolly for easy moving.

New Wood Filler Spray Gun

A newly designed airless spray gun, for the exclusive application (by spraying) of wiping stains and paste fillers, from a 6-lb. to a 12-lb. cut, has been announced by the Hydra-Electro Co., 3148 N. Pennsylvania St., Indianapolis, Indiana.

Designed and made for spraying filler.

The gun offers all desirable features to make the messy job of applying filler and wiping stains cleaner and easier. Using no atomizing air pressure, the gun produces a clean and fog-free deposit of material to all types of wood surfaces. When observed in operation, it ap-

pears to work like a brush application, both in the quality of work and in the 35% saving of material which is generally lost in bounce-off from a pneumatic spray gun. The air exhaust can be reduced to a bare minimum, thereby eliminating the troublesome exhaust problem of filler exhausted into adjoining yard areas or on roof tops.

This well balanced, light weight gun provides a unit that is easy for the operator to hold. All wearable parts of the nozzle are made of tungsten carbide. There is a positive on-off trigger, with the non-operating position of the valve closed under spring and liquid pressure.

A single length of user's fluid hose runs from the handle of the gun to the user's present material source of paint pot or pump. The equipment is sold only on a mail order basis, with a money-back guarantee.

For more data, circle 8 on colored card.

Heat Resistant Paint

Hevi-Duty Electric of Milwaukee gets double protection for its combustion tube furnace by the use of a special silicone-base heat-resistant finish which is used for an attractive exterior surface and as a rust-retardent on the inside.

The silicone finish is sprayed on the inside of the steel furnace shell to prevent rust from forming due to condensation when the furnace is initially started. The same finish in a metallic green is used to preserve the outside surface. The name of the finish is Sicon, supplied by the Midland Industrial Finishes Co., Waukegan, Illinois.

It is reported that the finish holds its original color indefinitely, does not chip, peel nor powder under sustained service use. It will withstand 1000° F.

For more data, circle 9 on colored card.

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For more data, circle 209 on colored card.

Light Flexible Pressure Hose

A new and versatile pressure hose for all hydraulic and pneumatic applications is announced by the Synflex Products Division, Samuel Moore & Co., Mantua, Ohio.

The manufacturer states that Synflex Pressure Hose has been under exhaustive development and testing in the field and replaces hose built to SAE Specification 100R1 single wire braid.

Applications for Synflex Pressure Hose include use for pressure paint spraying, catalyst and plastisol handling, etc.

According to the company, Synflex Pressure Hose is an entirely new concept in hose design and manufacture. It consists of a precision-drawn inner core tube of a special inert polyamide formulation over which is braided a tough synthetic covering to provide high burst resistance. A black plastic is extruded over the inner components to form a durable, abrasion-resistant outer sheath.

For more data, circle 10 on colored card.

Oakite Deburring Compound

A new compound that combines moderate alkalinity with abrasives to deburr metals in tumbling barrels is offered by Oakite Products, Inc., 132 F Rector St., New York 6, N. Y.

In Oakite's FM 182 there is 40 to 80 mesh abrasive to speed cutting action and so shorten deburring cycles. It has no adverse chemical action on metals, and often enhances the color of the pieces. It may be used in a range of 4 to 48-oz. per gallon of water at room temperature.

For more data, circle 11 on colored card.

For more data, circle 210 on colored card.

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Use INDUSTRIAL FINISHING magazine's "Reader Service" return cards to obtain further information on products described and illustrated in the "Materials; Supplies; Equipment" section which precedes this page; also to receive further information on what manufacturers have to offer—literature, products, supplies, services, etc., as mentioned on the following pages.

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Industrial FINISHING

October, 1960, Issue

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White Rubbing Compound

A white rubbing compound that is especially suited for rubbing and polishing lacquer finishes in off white colors is offered by Du Pont.

The white compound is formulated to impart the same high luster to acrylic and nitrocellulose lacquer surfaces, but eliminates the possibility of any visible residue left in crevices after application on light colored finishes.

A descriptive brochure may be obtained from the Du Pont Co., AP-66, Room D-8167, Wilmington 98, Del.

For more data, circle 12 on colored card.

A Long Wash-Rinse-Dry Machine

What is believed to be the world's longest high production wash-rinse-dry machine for cleaning steel and aluminum (22 to 30 gauge) sheet before bonding to plywood backing has been produced by The Alvey-Ferguson Co., 6028 Disney St., Cincinnati 9, Ohio.

To ensure thorough cleaning, rinsing and drying of the sheets, the machine—operated at a mean conveyor speed of 25-fpm—had to be built 119-ft. long.

Features incorporated include: A snow plow type of air blow-off between stages to prevent a carry-over of solutions from one stage to another; a separate conveyor through the high temperature, insulated, gas-fired dryer to minimize water carry-over into the dryer unit; nylon covered hold-down cables through the spray sections to prevent damage to the light gauge sheets being conveyed through the machine.

For more data, circle 13 on colored card.

KD Screen Process Frames

If you use wood screen process frames you will be interested in Mite - R - Stix. These precut, pregrooved and mitered pieces of Ponderosa pine are available in either 1⅛-in., or 1⅝-in. square stock, in lengths ranging from 6-in. to 48-in. They are easy to assemble; just hammer corrugated fasteners in corners for a perfectly matched tight fit.

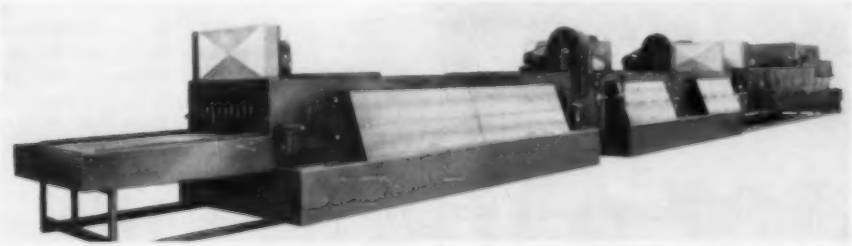
Advance Process Supply Co., Inc., 2315 W. Huron St., Chicago 12, Ill., is the manufacturer.

For more data, circle 14 on colored card.

Floral Flock Has Own Adhesive

A new advance in flocking—a floral flock that has its own built-in adhesive and requires only water for its application—is announced by Cellusuede Products, Inc., Rockford, Ill.

Called Aqua-Spray rayon floral flock, it is designed for use in flock coating holiday trees and wreaths, as



Alvey-Ferguson Co.'s conveyorized wash-rinse-dry machine for sheet metal is 119-ft. long.

well as all kinds of floral pieces and displays throughout the year. It comes in three flame-proof colors—white-snow, pale pink and icy blue.

Aqua-Spray is easy to apply uniformly without waste. It flows freely and will not stick nor clog in flocking equipment.

Samples are available from Cellusuede Products, Inc., 500 N. Madison St., Rockford, Illinois.

For more data, circle 15 on colored card.

For more data, circle 237 on colored card.

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For more data, circle 238 on colored card.

Airless Spray Pole Gun by Binks Mfg. Co.

A new airless spray painting pole gun is now included in the Binks Mfg. Co. line, for use with the regular airless spray painting line.

Airless spray painting pole gun has large handle and trigger; easy to operate.

Available in 4, 6 and 8-ft. lengths, the pole gun will make it possible to do many painting jobs easily and economically. It is especially useful for jobs where the surfaces are hard to reach.

Features of the airless pole gun include a 360° swivel head which is easily detached for cleaning, a large handle and trigger for easy handling, and a shut-off needle valve at the tip of the pole.

More information is offered by Binks Mfg. Co., 3116 Carroll Ave., Chicago, Ill., or Binks Mfg. Co. of Canada, Ltd., 14 Vansco Rd., Toronto, Ontario, Canada.

For more data, circle 16 on colored card.

Paint Using Chlorinated Solvent Solves Problem

The experience of a fiberglass roofing manufacturer may prove useful to finishers. He required an applicators' guide stripe to be applied at high speed just before the roofing was rolled for shipment. The stripe must not be flammable nor toxic, and must dry quickly so that it would not transfer to the back of the felt as it was rolled up.

Different types of paint were used

in experiments. The problem was finally solved through the use of a chlorinated solvent Chlorothene NU, a trichloroethane manufactured by The Dow Chemical Co., 45 Rockefeller Plaza, New York 20, N. Y.

For more data, circle 17 on colored card.

Cement For Plastics, Glass or Metal

A special cement called Proxseal adhesive No. 37-164-8 is effective as either a wet bonding cement, or when applied, dried and subsequently solvent activated to accomplish the seal.

Proxseal cement can be used with equal success on similar or on mixed surfaces, including vinyl, saran, pliofilm, rubber, polymer coated cellophane and glass, as well as a variety of metals. It is a product of Pyroxlyn Products, Inc., Chicago 32, Illinois.

For more data, circle 18 on colored card.

Small Portable Sandblaster

Recently developed is a new, portable sandblasting unit known as Handi-Blast portable sandblaster. Designed for use where fast, economical sandblasting is necessary for many different applications, it requires no more air than a production spray gun.

Completely portable, the overall height is 23-in. with a tank diameter of 7-in. and is tested at 300-psi. The unit weighs 23-lbs. empty and has an abrasive capacity of 30-lbs. of sand. It operates with abrasives between 20 and 100-lb. mesh.

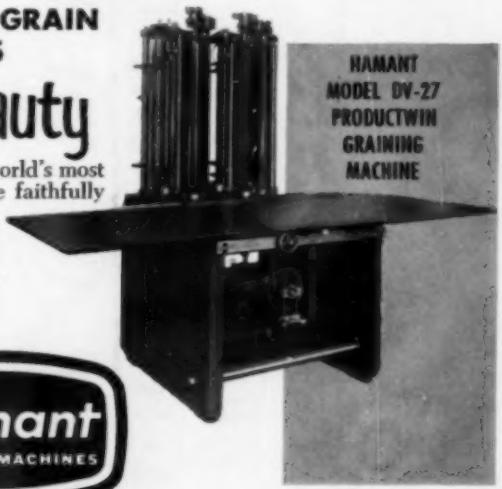
With a 3/32-in. nozzle the unit consumes about 8-cut.ft. of air per minute. With a 5/32-in. nozzle it will consume about 20-cu.ft. per minute requiring an air supply from a 2-hp. and 5-hp. compressor respectively.

For more information, write Hamill Mfg. Co., Inc., Washington, Mich.

For more data, circle 19 on colored card.

MULTI-COLOR WOOD GRAIN PRINTING REPRODUCES FULL Natural Beauty

All of the delicate shadings of the world's most handsome selected wood grains are faithfully reproduced on close-register HAMANT DV-27 Productwin Graining Machines. Printing in two colors over a third (ground) color, gives a truly natural appearance which cannot be duplicated by ordinary methods. Can print assembled work up to 40 inches high.



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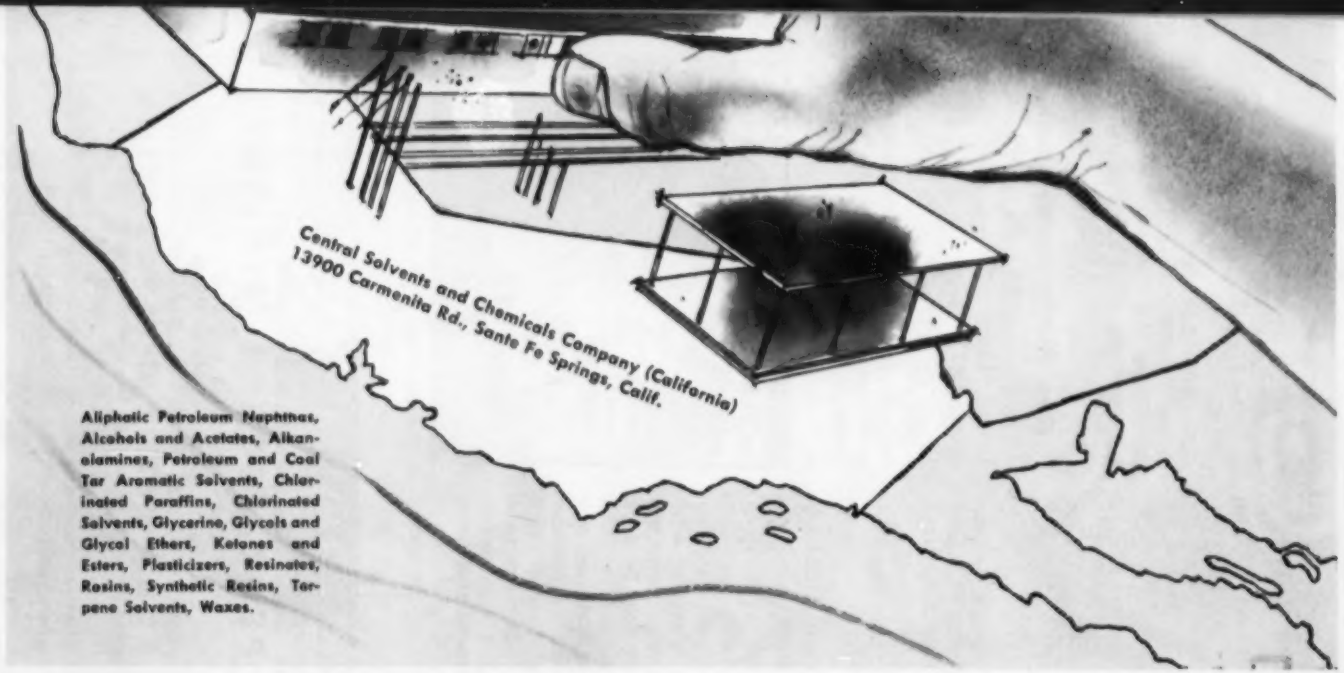

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For more data, circle 212 on colored card.

"Zip-it" Spray Booth Coating

Zip-it is a new development for those who want a low cost, plastic coating for spray booths, without regard for fire safety. It should be used as solvents are used in paint rooms.

Zip-it is easy to use and sprays with regular spray equipment. Average booths are masked in 15 minutes and it is resistant to acids, alkalis, gasoline, fats and oils.

DuBois offers a similar plastic coating that is non-flammable, called Peel Filmite. DuBois Chemicals, Inc., 634 Broadway at 7th, Cincinnati, O.

For more data, circle 20 on colored card.

Chromate Conversion Coating For Aluminum

A new compound for applying a chromate film on aluminum surfaces for protection against corrosion is called Divercoat 2-A. It conforms to MIL-C-5541 specifications covering immersion coatings. It may be used as a base for paint coatings.

Chromate conversion coatings are produced by immersing aluminum parts for a short time in a solution of 1 to 3-oz. per gallon at room temperature. The protective film develops from a chemical reaction between the aluminum and the solution.

Depending on the alloy processed and operating conditions, the resultant conversion coating ranges in color from iridescent yellow to light gold.

The manufacturer is The Diversey Corp., 1820 W. Roscoe St., Chicago 13, Illinois.

For more data, circle 21 on colored card.

New Plastic Spray Nozzle

The Delavan Mfg. Co. of West Des Moines, Iowa, offers a new plastic spray nozzle. The new nozzle is for use in cooling towers, evaporative condensers, spray humidifiers, air washers, spray ponds and other air conditioning and industrial applications.

INCREASE PRODUCTION! CUT COSTS!
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RONA PEARL CORPORATION

A Division of Rona Laboratories, Inc.

East 21st and East 22nd Sts., Bayonne 2, N. J.

Plants: Maine New Jersey Canada

For more data, circle 213 on colored card.

This nozzle is made of Polypropylene, said to be the lightest of current thermoplastic resins. It is extremely durable and offers unusual heat resistance. Also, it is designed to prevent clogging. There are no vanes, cores or other obstructions in the nozzle. All inside surfaces are smoothly rounded to prevent the build-up of mineral deposits inside the nozzle.

For more data, circle 22 on colored card.

Standard Machinery Finishes in Aerosol Cans for Touch Up

Quick and easy touch-up or repainting of machinery, etc., is now possible with 16-oz. aerosol cans. These push-button enamels are part of Sprayon's line of 47 maintenance and production aids in self-spraying containers. Both enamels meet American Standards Association specifications.

A quick easy spray job on location.

The line includes color code enamels, special lubricants, protective coatings and degreasers. A handbook "Aerosols for Industry" is available from the Industrial Supply Division, Sprayon Products, Inc., 2075 E. 65th St., Cleveland 3, Ohio.

For more data, circle 23 on colored card.

Tough Pipe Coating

Dearclad 765, a new epoxy pipe coating that has a rapid curing rate, good resistance to physical impact, abrasion and moisture absorption, is offered. The product provides protection against chemical attack, has high electrical resistance and retains its physical properties over a temperature range of below zero to 250° F.

The coating is composed of two components which are blended at the point of application. It can be applied by brush, roller or by airless spray. When properly cured, the coating will withstand rough handling without damage and pipe can be stored above or below ground without damage. It is a product of Dearborn Chemical Co., Dept. PC, Merchandise Mart Plaza, Chicago 54.

For more data, circle 24 on colored card.

RECOVER your Paint Overspray

• REPROCESSED in our plant to conform to its original specification, in both physical and chemical properties, paint waste overspray or sludge can be used again in regular production at considerable savings. Our more than 21 years' experience is customers' guarantee of satisfaction.

PRIMERS—WHITES—COLORS—

• Write for complete details!

Mixed color sludges can be converted to primers.

W. C. RICHARDS CO., 3108 W. Vermont St., Blue Island, Ill.
California Plant: 401 Julianna, Anaheim, Cal.

For more data, circle 214 on colored card.

What Manufacturers Offer--Literature, Materials, Equipment, Supplies, Services

Please Mark Returned Cards Correctly

Some of the returned cards we receive are not filled in correctly—and we cannot read a few of the hand written names and addresses. Before returning a card, please check to see if it is marked correctly—and legibly, including your name and address. Thank you.—*Editor.*

Compressed Air Dryers prevent damage due to moisture and dirt in air lines used for finishing operations. Van-Air Dryers extract water and contaminating particles down to sub-micronic size, deliver air uniformly clean and dry for spraying, blasting, etc. Write for 12-page brochure. Van Products Co., 5744 Swansville Road, Erie, Pennsylvania.

For more data, circle 25 on colored card.

Nu-Pron Primer allows you to paint a wire, dry it and tie it in a knot without the paint cracking, chipping or flaking off. Glidden primers and product finishes are formulated to give protection against corrosion, humidity, staining, impact, abrasion, heat and cold. No matter what your product, process or problem The Glidden Co., Industrial Paint Divn., Cleveland 14, Ohio, can provide the answer.

For more data, circle 26 on colored card.

Improved Flow Coating System has these features . . . smaller paint reservoir, smaller circulating pumps, less solvent loss and quick conversion from your old system of paint application. The "Oscicator" combines a two-plane operation to develop a painting pattern with a minimum of paint circulation and atomization. Is adjustable to accommodate a variety or complexity of work. George Koch Sons, Inc., Evansville 4, Indiana.

For more data, circle 27 on colored card.

Implement Finishes that withstand exposure and every kind of usage are just one of the many industrial finishes by the Industrial Finishes Division of Gilman Paint & Varnish Co., of Chattanooga, Tenn., serving the industrial southeast since 1910.

For more data, circle 28 on colored card.

"Dek-O-Pearl" Dispersions, are the natural and synthetic concentrated structural color pastes for producing pearlescent finishes. Can be used for surface coatings or in plastics. Specify your method of application when requesting sample. Crystal Essence Corp., P. O. Box 108, Bound Brook, New Jersey.

For more data, circle 29 on colored card.

Finishes Consultant, with no supplier affiliations, can give you a 4-day "consulting package." Complete process analysis with detailed equipment specifications can be given. E. A. Zahn, 3502 Hillsboro Court, Louisville 7, Ky.

For more data, circle 30 on colored card.

Hydra-Spray Airless is being profitably use by many industrial spray painters. Paint is kept circulating and is only drawn into the Hydra-Spray as it is used. Overspray and bounce-back are eliminated and you get complete, uniform coverage over rough or porous surfaces, with high-speed application. The Gray Co., Inc., 23 Graco Square, Minneapolis 13, Minnesota.

For more data, circle 31 on colored card.

Catalyzed Coating by the United Lacquer Mfg. Corp., Linden, N. J., "Syn-A-Lac" is a scientifically formulated synthetic for wood finishing that air dries with speed of lacquer, and has the hardness, flow, high build and solids of enamel. Will not cold check, print, mar or scratch readily, and is resistant to hot water, alcohol, nail polish, other acids and alkalies. Available in flat, satin and gloss in clear and colors.

For more data, circle 32 on colored card.

Thickness Measurements and paint hiding power can be quickly and accurately determined with the Pfund cryptometer and the Pfund paint film gage. A descriptive folder on these instruments is available. Koehler Instrument Co., Inc., 168-56 Douglass Ave., Jamaica 33, N. Y.

For more data, circle 33 on colored card.

Atlas II Pump is designed specifically for both conventional or heated airless. The HydraAirless 30 featuring the Atlas II pump provides 50% more power and 40% more volume. Materials formerly impractical to spray are handled easily by the HydraAirless 30 and the H-Gun which provides total atomization. Spee-Flo Co., 6614 Harrisburg, Houston 11, Texas.

For more data, circle 34 on colored card.

BFC Chromic Acid (flake) is available from Better Finishes & Coatings, Inc., 268 Doremus Ave., Newark 5, N. J. Every batch is checked, and every can filled with a full weight of extra-high quality Chromic Acid. Prompt delivery from factory and nearby distributor stocks.

For more data, circle 35 on colored card.

Natural and Synthetic Pearl finishes in air dry or bake coatings for a variety of products, are offered by Rona Pearl Corp., E. 21st & E. 22nd St., Bayonne, New Jersey. Apply to metal, plastic, wood or glass surfaces.

For more data, circle 36 on colored card.

"Redi-Ray" Modular Infrared Ovens fit any finishing system. Provide uniform heat with no hot spots; high efficiency with no bulbs, tubes or reflectors to get dirty, burn out or break; complete flexibility, adaptable to any conveyor system. Engineering Data Sheet No. 112 describes RediRay and its applications. Infra-Red Systems, Inc., 240 Rt. 23, Riverdale, N. J.

For more data, circle 37 on colored card.

Tweed Multi-Color Textured Finish is available in a variety of colors and patterns. Fills and covers rough surfaces; eliminates costly finishing procedures and prolongs the life of finished surfaces. Information and free "Tweed" brochure available. Raffi and Swanson, Inc., 100 Eames St., Wilmington, Mass.

For more data, circle 38 on colored card.

IF SO,

Call us for PAINT LINE HOOKS that will do the job efficiently, economically, profitably.

W. E. PIPKORN MFG. CO., INC.
2211 W. Co. Rd D,
St. Paul 12, Minn.
MElrose 3-3402

Specialists in Finishing Line Fixtures

For more data, circle 215 on colored card.

Restore Paint to its original consistency without opening the container, whether in ¼-pint cans or in 55-gallon drums. Time required is only 2-minutes per gallon. Full information from Miracle Paint Rejuvenator Co., 128 E. 10th St., St. Paul.

For more data, circle 39 on colored card.

Automatic Viscosity Control for spraying, flow coating and dipping improves quality of painting and finishing by providing continuous uniformity of paint material. Norcross Corp., 247 Newtonville Ave., Newton 58, Mass.

For more data, circle 40 on colored card.

"Spex" Multicolor One-Coat Finish by V. J. Dolan & Co., Inc., 1830 N. Laramie Ave., Chicago 39, Ill., provides a combination of two or more harmonizing colors in one coat with standard spray equipment. For finishing wood, metal, plastic, brick, concrete and all types of composition board. Dries like lacquer. Hides surface irregularities. 1960 color card showing assortment of sprayed (not photographed) multi-color combinations available.

For more data, circle 41 on colored card.

Paint Strainers for straining lacquers, enamels, paints or varnishes. Made of heavy paper stock with cloth inserts in coarse, medium, fine and extra fine mesh, 6-in. in diameter. Louis M. Gerson Co., Box 175A, Mattapan, Mass.

For more data, circle 42 on colored card.

IDEAL TACK RAGS
FOR A PERFECT FINISH
Bulk or Bagged
IDEAL CHEMICAL COMPANY
1499 Dean Drive, South Euclid 21, Ohio

For more data, circle 240 on colored card.

Heavy-Duty Roller Coaters by The Black Brothers Co., Inc., Mendota 12, Ill., apply paints, lacquers, sealers, sizes, stains, waxes, fillers, base coats, etc., to wood, metal, plywood, composition board, hardwood, plastic, etc. Have speed, accuracy, cleanliness and economy. Descriptive literature available.

For more data, circle 43 on colored card.

Unifo Stains are finely dispersed pigment stains which can be applied by spray or brush to close-grained woods such as poplar, gum, maple and birch. Do not require wiping. Give appearance of a wiping stain; air-dry in one hour. Can be sprayed on hard-to-reach corners without showing white lines. The Lawrence-McFadden Co., Inc., 7430 State Road, Philadelphia 36, Penn.

For more data, circle 44 on colored card.

Tack Rags for use prior to painting, to wipe off and hold dust and dirt particles too small to see, but which might leave a blemish on the final coat of paint or finish, are available from Ideal Chemical Co., 1499 Dean Drive, South Euclid 21, O.

For more data, circle 45 on colored card.

"Gripalloy" Primer for 25 Metals is available in black and colors; excellent adhesion . . . and resistance to salt spray and solvents. Tenax Finishing Products Co., 390 Adams St., Newark 5, N. J.

For more data, circle 46 on colored card.

"Prep" Products for Phosphating, cleaning, conversion coating, paint bonding, metal conditioning and rust removing are available from Neilson Chemical Co., 2306 Gainsboro, Detroit 20 (Ferndale), Mich. "Prep" Products are available for steel, aluminum zinc, cadmium, etc. Write, outlining your needs, and recommendations will be made.

For more data, circle 47 on colored card.

MORSE DRUM UPENDER No. 32

Takes the strain and effort out of upending heavy drums. Has 40" handle offset 35° for top efficiency. Hefty 1½" hook provides clearance for largest chime. 2½" x 8" toe plate spreads lifting pressure over large area to prevent drum damage. Order Several Today!

MORSE MFG. CO., INC. $8.40 FOB
783 West Manlius St., E. Syracuse, N.Y.

For more data, circle 216 on colored card.

Technical Help, Testing and training are the extra services offered by The DeVilbiss Co., Toledo 1, Ohio. These services make the difference between a merely good finish and a superior finish on your product. When selecting spraying equipment, ovens, paint pumps, air compressors, hose, etc., make use of these special services. Branch office engineers are available to aid you in planning, selecting and installing complete finishing systems.

For more data, circle 48 on colored card.

"Polyfax" Process gives true reproduction of the most delicate wood grains, leather or fabric textures and even patterns or designs of your own creations. Can be used on wood, plastic, steel and composition board. "The Key to Distinctive Styling" is a free booklet that tells how Polyfax can be used in your production line. Interchemical Corp., Finishes Divn., 224 McWhorter St., Newark 5, New Jersey.

For more data, circle 49 on colored card.

Industrial Finishes, specially formulated for your production line and products, give your products a salable appearance. For a perfect protective and decorative finish for your purpose, consult the Rockford Varnish Co., Rockford, Illinois.

For more data, circle 50 on colored card.

"Stripex #153" is excellent for stripping vacuum metallizing racks. No heat is necessary. Mild steel tank is all that is required. Stripex #153 strips all types of baked enamels. Some baked enamels are stripped clean in a matter of seconds. Dytex Chemical Co., 140 India St., Providence 3, Rhode Island.

For more data, circle 51 on colored card.

Reverse Roll Coater for eliminating imperfections in hardboard panels and other material, is available from Schmutz Mfg. Co., 1600 W. Main St., Louisville 3, Ky. Machines are heavily and accurately built and are obtainable in two sizes for 36-in. and 48-in. panels, any length, and up to 2-in. thick. Other wood graining machines are also available.

For more data, circle 52 on colored card.

Detrex Electrolytic Cleaners reduce rejects, and re-runs and increase production. There is a cleaning process for all of your cleaning needs whether zinc, steel, brass, copper or nickel. A Detrex Service Engineer can give you complete information and recommendations. Detrex Chemical Industries, Inc., Box 501, Dept. IF-759, Detroit 32, Michigan.

For more data, circle 53 on colored card.

Synflex Universal Paint Spray Hose is flexible, light and economical. Has abrasion resistance, can be used for hot or cold spraying, has high strength, handles all finishes. Comes in 500-ft. reels. For all of your paint spray hose needs contact Samuel Moore & Co., Synflex Products Divn., Mantua, Ohio.

For more data, circle 54 on colored card.

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For more data, circle 241 on colored card.

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The Finest in Industrial Finishes!

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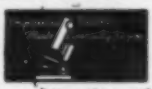
For more data, circle 217 on colored card.

Implement Finishes for tractors, etc., have been developed by Minnesota Paints, Inc., Minneapolis 15, Minnesota. Have good resistance to sun, rain and agricultural chemicals. The "Man from Minnesota" can help you secure the right finish for your product and method of application.
For more data, circle 55 on colored card.

Hot Airless Spray Painting by Nordson Corp., 55 Jackson St., Amherst, Ohio, can save up to 30% on paint or other coating materials, and on labor too. Less expensive spray booths are needed, clean-up and housekeeping costs are reduced. Bulletin on Nordson Airless is now available.
For more data, circle 56 on colored card.

Guardsman Furniture Finishes by Grand Rapids Varnish Corp., Grand Rapids 2, Mich., add beauty and stability to your furniture line. Let a Guardsman salesman help you select the proper finish for your product.
For more data, circle 57 on colored card.



"GRIPALLOY"

... Attractive satin sheen primer in black and colors ...
... Amazing tight adhesion to 25 different metals as reported by a large electrical manufacturer ...
... Excellent resistance to Salt Spray, Gasoline and Solvents.

TENAX, NEWARK 5, N. J.
Lacquers—Enamels
Synthetics—Varnishes

For more data, circle 242 on colored card.

Dupor No. 4 Respirator has double filters for easy breathing and greatest filtration of paint spray, dust and fumes. Soft rubber face mask gives an air tight fit. Patented Dupor valves bring in clean air and throw off breathed air. Weighs only 4-oz. H. S. Cover, P. O. Box 2508, South Bend 14, Indiana.
For more data, circle 58 on colored card.

Melaqua 600 is water-soluble, hard, solvent-resistant, colorful and non-inflammable. Melamine resin makes Melaqua hard and solvent-resistant and is combined with an acrylic polymer for color, high gloss and weather resistance. Melaqua can be the vehicle for a baking enamel with good characteristics of both the emulsion system and water-soluble system. American Cyanamid Co., Plastics & Resins Divn., 30 Rockefeller Plaza, New York 20, N. Y.
For more data, circle 59 on colored card.

Radiant Heat Systems by Burdett Mfg. Co., 4920 S. Monitor Ave., Chicago 38, Ill., assures a finish that's on to stay with extra advantages of lower cost and increased output. Burdett engineers can be helpful to you in simplifying your finishing problems.
For more data, circle 60 on colored card.

Aerosol Finishes—custom-loaded by Sprayon—never vary in color or performance, as they are tested and proved in Sprayon's quality-control laboratory where paint chemists and paint technicians make sure of this fact. All test data, materials and samples are dated, coded and filed for future reference. Sprayon Products, Inc., 2065 E. 65th St., Cleveland 3, Ohio.
For more data, circle 61 on colored card.

PAINT HIDING POWER and THICKNESS MEASUREMENTS

Quickly and Accurately Determined with the PFUND CRYPTOMETER and the PFUND PAINT FILM GAGE

Write your laboratory supply house for descriptive folder or direct to...

KOEHLER INSTRUMENT COMPANY, INC., 168-56 Douglas Ave., Jamaica 33, N. Y.

For more data, circle 218 on colored card.

New Waico Coaters - Glue Spreaders - Laminators
New Series 60 Waico Coaters available in single top coaters, double coaters for coating one or both sides and single bottom coater.

Model 60-A-4 Single Top Coater
Model 60-B-2 Double Coater
Model 60-D-1 Single Bottom Coater

A good sturdy roller coater designed for use either with conveyors and drying ovens or available with locking caster for use in various locations in the plant. Designed for constant production use or for small shops—Moderately Priced—for applying lacquers, enamels, varnish, finish coats, adhesives, glues, oils and many other coating mediums to plywood, metal, hardboard, paperboard, fabrics and a large variety of flat surfaces.

See your dealer, or write to

L. R. WALLACE & CO., 172 N. Vernon Ave., Pasadena, Calif.

For more data, circle 219 on colored card.

Steinemann Coater applies all finishes uniformity to practically any size or shape of product. There is no waste; unused material is recovered by a recirculating system. For additional information write Wilco Machine Works, Inc., Municipal Airport, P. O. Box 3897, Memphis 14, Tennessee.

For more data, circle 62 on colored card.

Burn-in Tools for making quick and skilful repairs to nicked, dented or scratched finishes. The Op-Al Electric & Mfg. Co., 3133 Martindale Ave., Indianapolis 5, Ind.

For more data, circle 63 on colored card.

"Dulux" Enamels meet highly specialized finishing requirements in a wide range of application techniques. Withstand sunlight, weathering and temperature extremes. Can be applied to metal before fabrication and does not chip, peel or crack during fabrication operation. E. I. duPont deNemours & Co., Inc., Finishes Divn., Wilmington 98, Dela.

For more data, circle 64 on colored card.

Graining Plates of any pattern, size or shape (wood grain, leather, marble, fabric, etc.) for hand or machine graining. American Richwood Products Co., 104 E. Mason St., Milwaukee 2, Wis.

For more data, circle 65 on colored card.

Water-White Lacquers and sealers for hot or cold spray application, in any sheen, permit good build and are cold check and mar-resistant. Ell-Bee water-white lacquers for modern furniture are non-yellowing. Ell-Bee Chemical Co., Inc., Hanover, New Jersey.

For more data, circle 66 on colored card.

"Bull Dog Shaker," Model 160, conditions paint to brushing consistency in one to 5-gal. cans, without opening the can. Time required is from two to 30 minutes, depending on paint formulation and length of time paint has been on the shelf. Easy to operate. Grenier & Co., Inc., 13142 Rexford St., Blue Island, Ill.

For more data, circle 67 on colored card.

Drawer-Glide Waxes, color or colorless, penetrate deep into pores of the wood thereby giving the drawers dimensional stability, a moisture-proof coating and lubricating the surfaces for easy sliding. Drawer Glide Waxes also beautify the wood and give surfaces a smooth, waxy feel. The Prillaman Co., P. O. Box 1024, Martinsville, Virginia.

For more data, circle 68 on colored card.

Gold, Copper and Aluminum are now available in Cres-Lite brilliant, metallic bronze powders. New color card showing the 44 colors now available is free upon request. Special or matched colors can be made. Crescent Bronze Powder Co., 118 W. Illinois St., Chicago 10, Ill.

For more data, circle 69 on colored card.

Multi-Color Wood Grain printing reproduces the world's selected wood grains. These grains can be reproduced on the close-register Hamant DV-27 Production Graining Machine. Prints in two colors over a third (ground) color. Gives a natural appearance which cannot be duplicated by ordinary methods. Can print assembled work up to 40-in. high. The Hamant Tool Co., Inc., 302 Warren St., Dayton 9, Ohio.

For more data, circle 70 on colored card.

Static Eliminator. Simco Ionizing air guns will put an end to static woes in any finishing operation. Plastic parts are blown clean while being neutralized, so that dust, dirt and lint are completely removed and will not be reattracted. The new electronic air gun is safe and easy to use; guaranteed effective. The Simco Co., 920 Walnut St., Lansdale, Penna.

For more data, circle 71 on colored card.

Dopes, Thinners, Lacquers and Enamels are a few of the many performance-proved hi-quality finishes available from Randolph Products Co., Carlstadt, N. J. Coatings for plastics, wood and metal can be formulated for any particular product and method of application.

For more data, circle 72 on colored card.

12,000 Standard Spray Nozzles for more exact performance to fit your needs, are described and illustrated in Catalog No. 24, available from Spraying Systems Co., 3240 Randolph St., Bellwood, Ill. Nozzles can be obtained in a choice of patterns, capacities, materials, spray nozzle types.

For more data, circle 73 on colored card.

NEW WOOD FILLER SPRAY GUN
"Airless"

- No Fog—No Mess
- Uses No Air
- Attaches to your present Hoses and Paint Tanks
- Saves Materials
- Sprays 12″ Cut with ease
- Price $99.00

Available By Mail Order Only—Sold on money back guarantee.

HYDRA ELECTRO CO.
3148 N. Pennsylvania St. Indianapolis 5, Ind.

For more data, circle 243 on colored card.

COMPRESSED AIR DRYERS

EXTRACT WATER AND SCALY PARTICLES—STOP PITTING IN AIR SPRAY FINISHING

Van-Air DRYER

Operating for less than 1c per 16,000 cubic feet, VAN-AIR Dryers clean and dry compressed air to ZERO dewpoint—reduce spoilage in spraying, blasting, plating, drying, agitation, etc. Many capacities. Ask for brochure.

VAN PRODUCTS CO.
5744 SWANVILLE ROAD, ERIE, PA.

For more data, circle 244 on colored card.

"Catalan" is the catalyst finish in either gloss or satin finish. Is tough, mar-resistant and waterproof; in clear and colors. Saves on baking cost and on forced air-drying time. Consult our laboratory staff technicians for advice on any finishing problem. J. Landau & Co., Inc., Carlstadt, New Jersey.

For more data, circle 74 on colored card.

Ultrasonic Cleaning Equipment by Westinghouse Electric Corp., 2519 Wilkens Ave., Baltimore 3, Md., comes in various tank capacities and sizes. Portable models and small table-top cleaning systems are available. Literature describing the features of these ultrasonic cleaners supplied upon request.

For more data, circle 75 on colored card.

"Apco Uniformity-Famous" Thinners are being used by industrial finishers for thinning to achieve improved coverage, drying control and production efficiency. Your Apco Solvents man can give you complete details. Apco thinners, Toluoil, No. 10 Mineral Spirits, Dryolene (VM&P) are a few of those available. Anderson-Prichard Oil Corp., Oklahoma City, Okla.

For more data, circle 76 on colored card.

No. 2 Process Electrostatic Hand Gun by Ransburg Electro-Coating Corp., Box 23122, Indianapolis 23, Ind., saves paint because there is no waste. Saves labor and increases production because it is faster due to the "wrap around" nature of electrospray which paints all sides of tubing, rod and wire from one side only. Saves on equipment because no spray booth is necessary; no compressed air for atomization.

For more data, circle 77 on colored card.

"Plextone" Multicolored Textured Finish has one-coat application of two or more interlaced colors sprayed at one time from one gun. Coating has good durability and wide application; can reduce finishing costs 35%. 1960 color card available upon request. Maas & Waldstein Co., 2110 McCarter Highway, Newark 4, N. J.

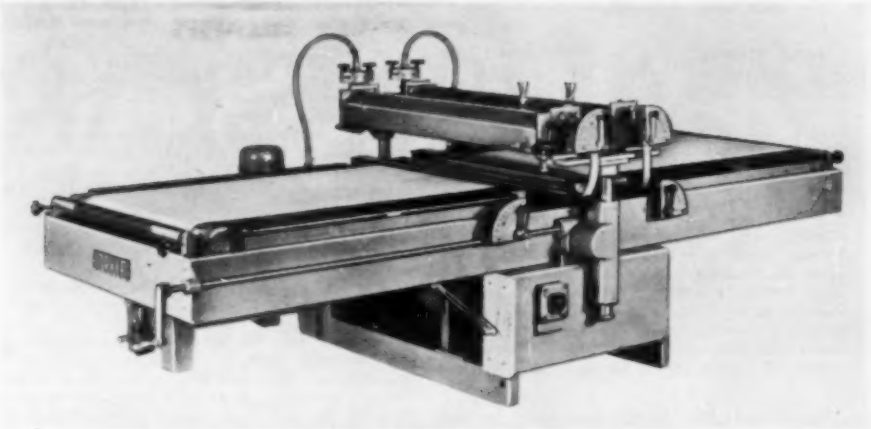
For more data, circle 78 on colored card.

Interlox Line of cleaning materials includes a product for every need, whether spray or immersion type cleaner is used, single or multiple-stage. Interlox baths are long-lived and require less additions and control. Northwest Chemical Co., 9310 Roselawn, Detroit 4, Michigan.

For more data, circle 79 on colored card.

For more data, circle 220 on colored card. ——→

NOW SET THE DIALS...
GET PERFECTLY UNIFORM FINISHES
...SAVE UP TO 40% ON MATERIALS



AUTOMATICALLY WITH THE NEW
BURKLE FLOW-COATER!

NO OVERSPRAYING
NO OVERLAPPING

Burkle Flow Coater vastly speeds application, sharply improves quality of finish. Drying is fast and uniform.

- Automatic application of lacquers, enamels, varnishes, polyester resins —with uniformity in continuous production — by maintaining optimum dial positions.
- Automatic finishing of flat, curved, fluted or striated, convex or concave surfaces on wood, metal, plastic, paper, canvas.
- Automatically perfect results with unskilled labor! Simple, fast, foolproof — the Burkle unit can provide a competitive advantage for your operation!

*Write for complete, illustrated Burkle Flow Coater Brochure.

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Exclusively distributed by Joyce Research and Development Corp. of Valley Stream, New York

Drum Upender No. 32 for upending heavy drums, takes the strain and effort out of handling drums of paint, etc. Size and shape of upender spreads lifting pressure over large area to prevent drum damage. Morse Mfg. Co., 763 W. Manlius St., East Syracuse, New York.

For more data, circle 80 on colored card.

Metal Coatings can be formulated for your particular product and method of application by the laboratory of Watson-Standard Co., 225 Galveston Ave., Pittsburgh 30, Penna. Industrial Finishes, plastics and chemicals are also available. Let their field technician help with your finishing problems.

For more data, circle 81 on colored card.

Tack Cloth for Wiping Dust. It's available in different meshes, in envelopes, rolls or bulk. Lint free, wax free; no danger of spontaneous combustion. Bond Chemical Products Co., 2641 N. Clybourn Ave., Chicago 14, Illinois.

For more data, circle 82 on colored card.

Spray Guns for every purpose; correct gun for your coating, your work load and for special purposes are available from Binks Mfg. Co., 3116-40 Carroll Ave., Chicago 12, Ill. Wide range of finishes can be applied with a single spray gun, but it must be right in many ways. Bulletin 60-J can help you select the gun that is right for your work.

For more data, circle 83 on colored card.

"Maximum Finishing Oven Efficiency" is the title of a free bulletin showing typical finishing system applications and specifications, available from Michigan Oven Co., Finishing Equipment Dept., 423 Brainard, Detroit 1, Mich. Moco problem-solvers will welcome the opportunity to team their talents with yours, when you have need for washing machines, Bonderizing units, dry-off ovens, dip tanks, flocoaters, conveyors, finishing ovens, etc.

For more data, circle 84 on colored card.

Solvents and Chemicals can be obtained from any one of the 21 members of the Solvents & Chemicals Group, with headquarters at 2540 W. Flournoy St., Chicago 12, Ill. Latest office is in Sante Fe Springs, Calif. Resins, rosins, waxes, glycerine, etc., are just a few of the products available from any of the Solvents and Chemicals group who give fast delivery at economical prices.

For more data, circle 85 on colored card.

"Pearl Glo" Synthetic Pearl Pigment can be sprayed or dipped on any sealed surface of plastic, metal, wood, leather, paper, etc. Can also be incorporated into acrylics, polyester, vinyl, etc. Gives a pearl finish at low cost. Sample available. Specify application and choice of vehicle. Argenta Products Co., Garnerville, N. Y.

For more data, circle 86 on colored card.

"DuStrypp" Paint Stripper removes paint fast; no disagreeable odor. The three-step paint stripping program includes survey and recommendation, supervised installation and continuous inspection and service. Free Tank-O-Meter slide chart available for checking volume of solution in stripping, cleaning tanks and paint booths; tells how much compound to add. DuBois Chemicals, Inc., Broadway at 7th, Cincinnati 2, Ohio.

For more data, circle 87 on colored card.

Agateen No. 8A Lacquer gives good protection on exterior surfaces against the elements. Has lasting appearance, adhesion, durability and mileage. Agate Lacquer Mfg. Co., Inc., 11-13 43rd Rd., Long Island City 1, New York.

For more data, circle 88 on colored card.

Reynosol Plastisol Coating can be applied by dip or spray. Has consistency of color and gloss. Is resistant to abrasion, light, oil, fire, alkali and acid. Has good tensile strength. Reynolds Chemical Products Co., Divn. of Stubnitz Corp., Whitmore Lake, Michigan.

For more data, circle 89 on colored card.

Walk-in Ovens, shipped set up — merely uncrate and connect. Six standard models are available. Size of work space and temperature range can be chosen for your particular use. Literature available to help you select the right oven for your application. Grieve-Hendry Co., Inc., 1341 N. Elston Ave., Chicago 22, Ill.

For more data, circle 90 on colored card.

"driQuik" Infra-Red Ovens have no bulbs or sockets to burn out; temperature can be set to within 1 degree of heat desired; maintenance costs are at a minimum. Can be used on products of wood, plywood, hardboard, etc. Field test equipment available to show you what can be done with your product and your finishes. Dry Clime Lamp Corp., Greensburg, Indiana.

For more data, circle 91 on colored card.

Exclusively distributed by Joyce Research and Development Corp. of Valley Stream, New York

Barrel-Finishing Compounds, by Oakite Products, Inc., 20 Rector St., New York 6, N. Y., are available for steel, brass, aluminum, zinc, lead and various alloys. Bulletin F-9339 will help you select the right compound to get the best results in your barrel-finishing process.
For more data, circle 92 on colored card.

Forced Convection Ovens for laboratory testing are available from Despatch Oven Co., 619 S. E. 8th St., Minneapolis 14, Minn. Can be used for preheating plastics, sterilizing, tempering glass, etc. Burn-off ovens, drawer ovens and walk-in batch ovens are also available. Bulletin 203-10BD describes and illustrates various types of laboratory ovens, etc.
For more data, circle 93 on colored card.

Armorette Coating is a textured vinyl finish that can be baked at low temperatures. Can be applied to non-heat-resistant materials such as polyester, wood and chipboard, dissimilar materials such as steel, aluminum, reinforced polyester and pressed wood. Has resistance to salt spray, humidity and chemicals. Bulletin and sample panel available. John L. Armitage & Co., 245 Thomas St., Newark, New Jersey.
For more data, circle 94 on colored card.

Merostrip, Special-H, P-1075, 4440C, and Sprazee are some of the paint strippers available from Wyandotte Chemicals, J. P. Ford Divn., Wyandotte, Mich. Tank stripping, steam guns, flow-on, brushing and spraying are methods that can be used in applying these strippers. Data and/or a demonstration can be obtained for your method and type of coating.
For more data, circle 95 on colored card.

Hooks for your Paint Line, standard types or specially made styles are available from W. E. Pipkorn Mfg., Inc., 2211 W. County Rd. D, St. Paul 12, Minn. For economy, durability, uniformity and convenience, use Wepco paint hooks on your paint line.
For more data, circle 96 on colored card.

"Electro-Cold Stripper" will strip vinyls, alkyds, japans, hammers, primers, wrinkles, enamels and epons in minutes. Is non-flammable, requires no heat or current. Complete data and testing sample free on request. Allied Finishing Specialties Co., 2641 W. Grand Ave., Chicago 12.
For more data, circle 97 on colored card.

Exposure Test. Actual weathering, corrosion and sunlight tests, direct and under glass for quick predetermination of durability and permanency in southern Florida by South Florida Test Service, Inc., 4301 N. W. 7th St., Miami 44, Fla.
For more data, circle 98 on colored card.

Non-Grain-Raising Stains, lacquers and everything for finishing fine furniture, cabinets, pianos, etc., plus styling and technical service—in Southeast U. S. A., are available from Snyder Bros. Co., P. O. Box 631, Toccoa, Georgia.
For more data, circle 99 on colored card.

Instant Stripper—For metal or wood finishes. A non-flammable, non-toxic stripper which removes almost instantly, most finishes—enamels, either lacquer or synthetic (baked or air dried), paints, varnishes, etc. V. J. Dolan & Co., Inc., 1830 N. Laramie Ave., Chicago 39, Illinois.
For more data, circle 100 on colored card.

Paint Overspray can be reprocessed in our plant to conform to its original specification in physical and chemical properties. Paint waste overspray or paint sludge can be used again in regular production at considerable savings. Mixed color sludges can be converted to primers. W. C. Richards Co., 3108 W. Vermont St., Blue Island, Illinois.
For more data, circle 101 on colored card.

"Murano" Colors give the lustre of pearl in color. Colors are produced by optical effect. Murano Colors provide multiple color play verging on the iridescent—effects impossible to achieve with conventional dyes or pigments. Can be used on almost any surface. 4-page brochure on Murano Colors is available on request. The Mearl Corp., 41 E. 42nd St., New York 17, N. Y.
For more data, circle 102 on colored card.

Perfex Satin Finishes, the original "flat" made by a new and different process, without the use of stearates or other flattening agents, have cut the dust-free time, increased print resistance, increased body and build, improved clarity and color . . . which combine to produce a rubbed finish effect appearance and a pleasant waxed effect feel. Available in a full range of sheens to produce the exact rubbed effect and waxed feel desired. Perfection Paint & Color Co., Indianapolis 2, Indiana.
For more data, circle 103 on colored card.

Gasway Rollacoating saves 67% on paint and gets a more uniform finish with faster production. Full information on Rollacoating is available from Gasway Corp., 6459 N. Ravenswood Ave., Chicago 16, Ill.
For more data, circle 104 on colored card.

Hi-Sol Enamel Reducer offers substantial savings in ready-to-spray paint costs. In addition, sagging is practically eliminated and a smoother, better looking finish obtained. Potter Paint Company, Cortland 1, New York and Cambridge City 1, Ind.
For more data, circle 105 on colored card.

Aluminum Pigments, Pastes and Powders, by Aluminum Co. of America, 1746-K Alcoa Bldg., Pittsburgh 19, Penna., when incorporated in enamels, give a corrosion and scratch resistant finish. Aluminum finishes are easy to clean and are long-lasting. Can be used effectively on lighting fixtures, air outlets, etc.
For more data, circle 106 on colored card.

"Flex-A-Foam" Dust Masks are form-fitting in design, attractive styling and good filtering efficiency. Masks are leather-like in weight and give easy-breathing comfort. Mask contains only four long-wearing, inter-locking parts, all washable. Pure latex filter outwears throw-away type. Flexo Products, Inc., Westlake, O.
For more data, circle 107 on colored card.

Hardex Clear Lacquers for Brass give high gloss and can be applied by spray or dip; air dry to bake hardness; have good adhesion to polished brass; will not blush nor discolor, remains flexible. Hardex lacquers are made for all metal surfaces. New England Coating Works, Inc., 349 Bryant Ave., New York 58, N. Y.
For more data, circle 108 on colored card.

Methacrylate Clear Lacquer by The O'Brien Corp., South Bend 21, Ind., eliminates corrosion on aluminum windows, doors and curtain walls when set into concrete and mortar. Retards oxidation and pitting. O'Brien finishes have beauty, toughness and long-life.
For more data, circle 109 on colored card.

Industrial Finishes for farm machinery, road equipment, etc., which is exposed to the weather, chemicals, elements, etc., are formulated to meet these problems by Gilman Paint & Varnish Co., Industrial Divn., Chattanooga, Tenn.
For more data, circle 110 on colored card.

Burkle Flow-Coater applies lacquers, enamels, varnishes, polyester resins, etc., with uniformity, automatically. Can be used on flat, curved, fluted, convex or concave surfaces of wood, metal, plastic, paper and canvas. Illustrated brochure available. Joyce Research and Development Corp., 249 W. Merrick Rd., Valley Stream, New York.
For more data, circle 111 on colored card.

Modifying Conventional Alkyds with Aroplaz 6006 reduces drying time to minutes, cuts application costs. Rejects and returns caused by water spotting, dust pick-up or paint failure have been eliminated. Your paint supplier or Archer-Daniels-Midland, 748 Investors Bldg., Minneapolis, Minn., can give complete information on Aroplaz 6006.
For more data, circle 112 on colored card.

"Barcoroc" Activated Wood Lacquers can be used with both hot and cold spray equipment, handles and dries like ordinary lacquer. Has good resistance to cold checking, water, alcohol fats and oils, marring and scratching. Available in pigmented lacquer enamels for wood, in various sheens. U-V Light Protection is built in to resist yellowing of film and wood. Barrett Varnish Co., 1532 S. 50th Court, Cicero 50, Ill.
For more data, circle 113 on colored card.

Waico Glue Spreaders, Coaters and Laminators are available in single top coaters, double coaters for coating one or both sides, and single bottom coater. Can be used for applying enamels, lacquers, finish coats, adhesives, glue, oils and other coating materials to plywood, metal, hardboard, paperboard and a large variety of flat surfaces. Designed for constant production or for small shops. L. R. Wallace & Co., 172 N. Vernon Rd., Pasadena, California.
For more data, circle 114 on colored card.

Wood Filler Spray Gun uses no air, there is no fog and no mess. Attaches to your present hose and paint tanks. Saves materials; sprays 12-lb. cut with ease. Hydra Electro Co., 3148 N. Pennsylvania St., Indianapolis 5, Ind.
For more data, circle 115 on colored card.

Surface Finishing Machines are available in eleven different diversified models. Can be used to polish, finish, etc., products of wood, plastic, metals, etc. Clair Mfg. Co., Inc., Olean, New York.
For more data, circle 116 on colored card.

Pearlchrome, Chroma Sheen, Trichlor Finishes, lacquers, varnishes, synthetic enamels and primers are just a few of the Proven Quality Finishes by Boydell Bros. Co., 1121 E. McNichols, Detroit 3, Michigan. Nearly 100 years of experience and constant research are at your disposal when you need industrial finishes.
For more data, circle 117 on colored card.

Portable Centrifugal - Type electrostatic hand gun, for both metallic and nonmetallic coatings, for indoor and outdoor work, is described in a free bulletin, from Ionic Electrostatic Corp., 111 Monroe St., Garfield, N. J. Model 10 can apply water-base and highly conductive coatings, wraps paint around corners, is easily installed in existing systems. Patented automatic spray systems are also available.
For more data, circle 118 on colored card.

Butyrate Lacquers are solving one of the furniture industry's most difficult problems—age-discoloration and staining of white and light-colored finishes. Water-white topcoat lacquers, based on tough, durable Half-Second Butyrate, an Eastman film-former, prevent age discoloration and staining of these finishes. Information and source of supply available. Eastman Chemical Products, Inc., Kingsport, Tenn.
For more data, circle 119 on colored card.

Hooks for your Paint Line, standard types of specially made styles, are available from W. E. Pipkorn Mfg., Inc., 2211 W. County Rd. D, St. Paul 12, Minn. For economy, durability, uniformity and convenience, use Wepco paint hooks on your paint line.
For more data, circle 120 on colored card.

Screen Process Catalog

A new catalog, its Number 137, has just come off the press for Atlas Silk Screen Supply Co., 1733 Milwaukee Ave., Chicago 47, Ill. The book covers inks, paints, silk, photo-screens, supplies of all kinds and equipment.
For more data, circle 121 on colored card.

Joseph V. Borland Dies

Joseph V. Borland, V. P. of Watson Standard Co., Pittsburgh, Pa., died at his home in Mt. Lebanon, Pittsburgh, Pa., on Wednesday, September 14, 1960. Mr. Borland was widely known in the Technical Coatings Industry. He is survived by his widow and two sons.

CLASSIFIED ADVERTISING

SALESMAN WANTED.

Wood Furniture Finishes—Experienced Sales and Technical Service Representative wanted for Western New York-Northern Pennsylvania area. Salary plus commission and expenses. Liberal fringe benefits. Contact W. Rosendall, Wolverine Finishes—RINSHED-MASON COMPANY, 836 Chicago Drive, S.W., Grand Rapids 9, Michigan.

INDUSTRIAL FINISHES

Chemist or Chemical Engineer with development and application background in strip roller coating needed to set up and staff strip coating laboratory. Backing by service minded production people and aggressive sales program makes this an outstanding opportunity for a self-starting man. Favorable compensation and benefit programs. Send complete resume in confidence to: Industrial Sales Manager, THE O'BRIEN CORP., South Bend, Indiana.

CHEMIST—FORMULATOR

For Industrial Finishes, all types. Experience preferred. Excellent opportunity. Write or phone

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FINISHES CONSULTANT
Popular (4 Day) Consulting Package
Complete Process Analysis with
Detailed Equipment Specifications
No Supplier Affiliations
E. A. ZAHN
3502 Hillsboro Court
Louisville 7, KY.
Phone, TWinbrook 5-4349

For more data, circle 245 on colored card.

CLASSIFIED ADVERTISING

The rate on ads appearing in this department is $1.00 per line of 6-pt. light face type, per insertion. Minimum charge, $5.00. Ads set in 8-pt. extra bold face type cost $2.00 per line, per insertion.

There may be certain firms or individuals to whom you do not want your reply sent. Simply address your communication to the box number in the ad and attach a separate list of names. Place both in a separate envelope addressed to Industrial Finishing Magazine, 1142 N. Meridian St., Indianapolis 4, Ind. If the advertiser is on the list you submit we will then destroy your letter. Names of advertisers using box numbers not revealed.

POSITION WANTED.

Finishing Supervisor with 14 years of diversified wood and metal experience. Able to take full charge of any finishing operation. Presently employed as a Plant Manager of a panel printing and finishing company. Wishes to relocate. Address IF-794, care Industrial Finishing.

FINISHING DEPARTMENT SUPERINTENDENT

Wanted for an important television cabinet factory located in Mid-West. Must be capable of running quality merchandise on schedule. Conveyorized system. Submit work history and references. Replies treated in strict confidence. Address IF-786, care Industrial Finishing.

MANUFACTURER'S AGENTS WANTED.

Excellent opportunity for those established in industrial finishing sales covering New York, Virginia and West Virginia. Tested, proven, infrared heating, drying and baking units. Permanent or portable stand mounted, very versatile. Advanced heating elements and design, results in low equipment costs and great savings in floor space, and operating costs. High returns for you with impressive demonstration of handy compact sample unit. Write us fully. Now! Address IF-795, care Industrial Finishing.

CHEMIST-PRODUCTION MAN

Wanted by progressive Southern Finishing manufacturing company to supervise formulations of wood finishes, stains, fillers, color matching and lacquers. Good opportunity for party of right background; for a young man in his 30's to grow with company. Replies confidential. Address IF-787, care Industrial Finishing.

CHEMIST-FORMULATOR WANTED

For stains and fillers. Salary open. Replies held in strict confidence. Should consist of experience and education resume. Address replies to Mr. Robert M. White, Technical Director, MARIETTA PAINT AND COLOR COMPANY, Acme and Greene Sts., Marietta, Ohio.

PAINT FORMULATOR — METAL DECORATING

Excellent opportunity for graduate chemist at group supervisor level at our new Paint Research Center in Cleveland.

EXPERIENCE: Five or more years experience in formulation of roll and coil coatings for metal finishing. Should be familiar with production coating equipment. Customer service experience desirable.

DUTIES: Development and formulation of metal finishing roll and coil coatings for containers, signs, closures, foil, aluminum siding and similar products. Limited customer service work.

This position offers ideal working conditions in modern new research facilities and excellent opportunities for personal progress and development. Submit complete details of education and experience. All replies held confidential.

THE GLIDDEN COMPANY
900 Union Commerce Building
Cleveland 14, Ohio
Att.: Mr. G. A. Sutton

PAINT SALESMAN WANTED.

Old established industrial finishes company located in Newark, N. J., wants an experienced salesman with a following in this field. We are ready to turn over a sizable number of house accounts to the right man. Salary and commission. Give complete background in first letter. All replies will be kept in strict confidence. Address IF-765, care Industrial Finishing.

INDUSTRIAL FINISHES SALESMEN

Wanted by a manufacturer of a complete line of Industrial Finishes for Kansas and Michigan territories. Salary and commission. All replies confidential. Address IF-788, care Industrial Finishing.

CHEMIST

Successful medium size Chicago area paint plant has challenging opportunity for Senior Chemist with extensive experience in the development and formulation of finishes based on vinyls in solution and as organisols, acrylics and alkyds, such as applied to metals by roller coating and strip coating processes. This firm wishes to expand into this field and offers substantial salary and many employee benefits to the thoroughly qualified individual. Replies will be kept strictly confidential. Preliminary interviews will be held in your locality. Please give outline of background and experience.

Write IF-793, care Industrial Finishing, Indianapolis 4, Ind.

OUTSTANDING OPPORTUNITY FOR AGGRESSIVE SALESMEN

experienced in Industrial Finishing Equipment. The Spee-Flo Manufacturing Corp. has territories available in the Chicago and surrounding area to represent factory in the sale of Hot Spray, Airless and general line of spray equipment. Your inquiry treated in confidence.

Write Sales Manager,

SPEE-FLO
COMPANY
6614 Harrisburg, Houston 11, Texas

INDUSTRIAL SALESMAN WANTED.

Old established Industrial Finishing Company wants an experienced salesman with a following in this field in the city of Chicago. Salary and commission. Give complete background in first letter. Address IF-789, care Industrial Finishing.

ATTENTION: ALL FINISH SALESMEN.

If your present line does not include varnish, you are missing a bet. PERFEX VARNISHES are unexcelled (yes, unequalled) and are well known by volume finish users. Look at our display advertisement on page 71 of this magazine. If you are interested in the possibility of taking on PERFEX VARNISH in addition to your present line, write us. All replies will be held in strict confidence. PERFECTION PAINT & COLOR CO.

DIRTY THINNERS AND SOLVENTS WANTED.

Send samples and letters giving approximate contents. GET CASH FOR SCRAP. THE JOHANN COMPANY, 13900 Grant St., Dolton, Illinois. Phone Dolton 4850.

WANTED.

Dirty solvents and thinners. Please send samples. Have clean reclaimed solvents for sale. Modern efficient solvent recovery service. Will process for customer, material at fraction of the original cost. ACME RECLAIMING, Inc., 1915 20th Ave., Rockford, Illinois.

FOR SALE

Refrigerator quality
Baking Enamel
(15 minutes at 300° F. or equivalent)
Over run colors
Minimum quantity drums
$1.50 per gallon

Address IF-792, care Industrial Finishing, Indianapolis 4, Ind.

EQUIPMENT WANTED.

Used Chain on Edge AUTOMATIC SPRAY MACHINE. Waterwash booth, good condition, about 70-ft. chain length, 1½ to 2-in. spindle centers. To be used for finishing of wood turnings.

H. G. WINTER & SONS, INC.
Kingfield, Maine., Phone CO 5-2171

VACUUM METALIZER WANTED.

4-ft. or larger Stokes or N.R.C. Must be in good operating condition. Please send price, location, specifications and date of mfg. Will consider entire metallizing department equipment. Reply IF-796, care Industrial Finishing.

FOR SALE.

One (1) Blakeslee Industrial washer rinser, spray horizontal type, steam heated, 13-ft. long with a 17-ft. conveyor opening, 15½-in. high by 27-in. wide. Like new. WILLIAMSON POLISHING & PLATING CO., INC., 2080 Martindale Ave., Indianapolis 7, Ind. Wa 4-4811, Joel Williamson.

FOR SALE.

Five-Stage Ransohoff spray parts washer, complete with dry-off section, conveyor chain and conveyor drive. Opening size 16x30; overall length 60-ft. 1200-gal. stainless steel phosphate tank, gas-fired with auxiliary steam coils, priced at 25% of original cost. Write D. B. Skilliter, THE ACME SPECIALTY MFG. CO., Box 2867, Toledo 6, Ohio.

FOR SALE.

Liquidating, cheap, Roto printer, spray booths, finishing equipment. S. NEWMAN & SONS, 2907 N. 17th St., Philadelphia 32, Pennsylvania. BAldwin 9-4700.

FOR SALE — COMPLETE VACUUM PLATING FINISHING DEPARTMENT

For plating on plastic, metal and glass. Produces an untarnishable lustrous gold and silver decorative finish. For complete information, address IF-783, care Industrial Finishing.

SURPLUS EQUIPMENT SALE.

Hill Acme, 4'x12' capacity Sheet Polisher. Hydraulic table drive, electrical push button controls for elevating table, oscillating drive, and automatic timing.

Pangborn 6-ft. rotary table, type LE Sandblaster and Collector.

Loftus Annealing Oven—1200° F. capacity, electrically heated, continuous belt, 11' long x 3' wide with complete electrical controls and recording instruments. Address IF-797, care Industrial Finishing.

FOR SALE
METAL WASH & PAINT SYSTEM.

Despatch 4-stage washer, dry-off oven, paint bake oven; M & E water-wash spray booths, approx. 500-ft. Webb monorail conveyor, variable speed drives, automatic lubricator, controls, etc. Dismantled, ready to ship. Original cost over $92,000. A terrific bargain. Will sell all or part. MASTERCRAFT CO., P. O. Box 166, Bala Cynwyd, Penna., or phone GR. 3-0600 (Phila., Pa.).

DON'T BUY ANY ONE OF THESE ITEMS

UNTIL YOU GET OUR LOW PRICES. WE CARRY A LARGE STOCK OF REBUILT USED FINISHING EQUIPMENT INCLUDING HAND OPERATED AND AUTOMATIC UNITS

SPRAY BOOTHS	CONVEYORS	PHOSPHATIZING UNITS
MIXING TANKS	FANS	CENTRIFUGAL ENAMELERS
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PRESSURE TANKS	LIGHTS	PUMPS, MOTORS, ETC.

GENEAL EQUIPMENT AND TRADING CO. • 2629 W. GRAND AVE., CHICAGO 12, ILL.

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30X HOSE

HIGH PRESSURE AIRLESS PAINT HOSE

- lower cost
- static wire
- reusable fittings
- highest burst pressure in airless industry

A-3213A

Contact your local paint spray equipment dealer for New Synflex 30X Airless Paint Spray Hose or write direct to us.

SYNFLEX®
Products Div.
Samuel Moore & Co.
Mantua, Ohio

For more data, circle 221 on colored card.

IONIC
ELECTROSTATIC
HAND GUN
provides

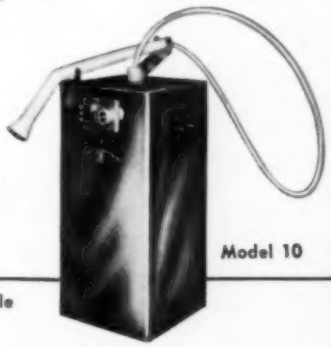
75% paint savings

"wrap around" coverage

Users of Ionic's Model 10 Centrifugal Type Hand Gun report paint savings up to 75% in addition to improved quality, lower labor costs and increased production. Edward De Figlia, President, Virgo Manufacturing Company, writes: "We reduced paint consumption 75% and labor 50% when we switched to the Ionic "Model 10 Hand Gun".

The Model 10 Ionic Electrostatic Hand Gun, capable of applying conventional and highly conductive type coating materials indoors and outdoors, is breaking production and material savings records throughout the country. Write for free bulletin I-60. Consultation and free laboratory demonstrations upon request.

IONIC ELECTROSTATIC CORPORATION
111 Monroe Street, Garfield, New Jersey
PRescott 3-1300



Model 10

Automated Ionic Electrostatic Spray Systems are also available

02

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Colorful Beauty

to your products

MURANO® COLORS

the lustre of pearl in beautiful color

Here are colors produced by optical effect... colors inherent in the crystalline structure of the pearl... colors with reflection and transmission complements. Murano Colors provide multiple color play verging on the iridescent—effects impossible to achieve with conventional dyes or pigments.

Used as a coating on almost any surface, Murano Colors will give you strikingly beautiful lustrous effects.

ASK FOR BROCHURE

This 4-page brochure tells all about Murano Colors. It's yours for the asking.

THE MEARL CORPORATION

world's leading producers of pearl essence

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